Reduction Tables for Readings by the Gauss-Poggendorff Mirror Method

Tables de réduction d'après la méthode du miroir de Gauss-Poggendorff

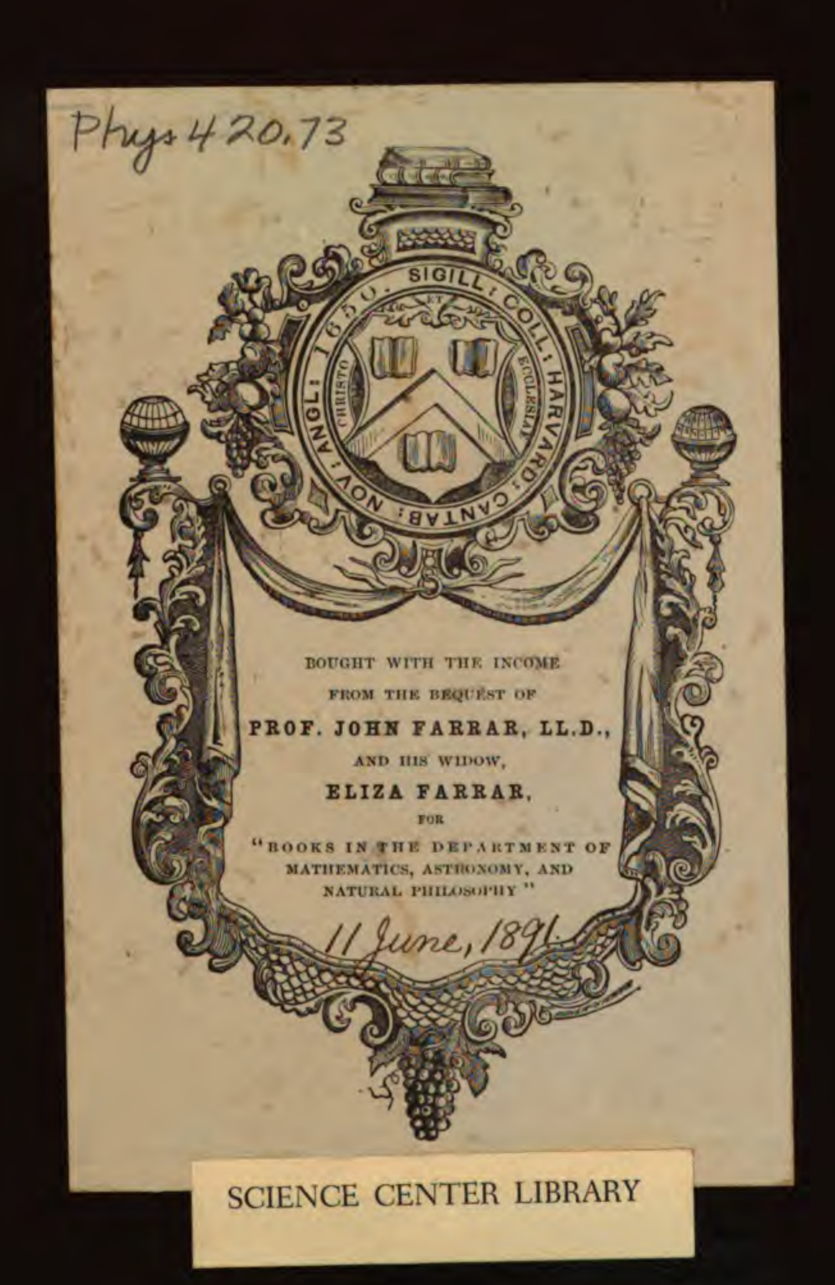
Reductionstabellen

zur

Gauss - Poggendorff'schen Spiegelablesung

von

Dr. Paul Czermak


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CHRISTO ET ECCLESIAE



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Mit 7 in den Text gedruckten Figuren.



BERLIN.

Verlag von Julius Springer.

1890.

Druck von H. S. Hermann in Berlin.

Vorwort.

Es wird wenige Arbeiten in jetzigen physikalischen Laboratorien geben, bei welchen nicht die Gauss-Poggendorff'sche Spiegelablesung in Anwendung kommt. Jedem experimentell arbeitenden Physiker ist diese Methode wegen ihrer vielseitigen Verwendbarkeit, Einfachheit und grossen Genauigkeit bei Messung kleiner Winkeldrehungen unentbehrlich geworden. Jedem Beobachter ist es aber auch zur Genüge fühlbar geworden, wie zeitraubend und lästig die Auswertung eines grösseren Satzes solcher Beobachtungen ist. Man kann wohl sagen, dass manche Untersuchung um ein beträchtliches ihrer Zeitdauer abgekürzt werden könnte, wenn sich der Beobachter nicht mit der Reduction von Scalenausschlägen aufhalten müsste.

Man hilft sich schon sehr, wenn man für einen vorliegenden Fall eine Tabelle anlegt, aus der man dann durch Interpolation oder Verzeichnen einer Curve jede Ablesung direct reduciren kann. Wird jedoch der Scalenabstand geändert, so hat man eine neue Tabelle zu rechnen, und selten findet man bei einer neuen Aufstellung Gelegenheit, früher gerechnete Tabellen wieder verwenden zu können.

Nur die Anlage von Tabellen mit zwei Eingängen, wo einerseits die Reductionen für die abgelesenen Ausschläge in genügend engen Intervallen berechnet, andererseits aber auch dieselben Ablesungen für verschiedene Scalendistanzen enthalten sind, können für jede beliebige Aufstellung genügen. Es ist klar, dass die Anlage solcher Tabellen, welche bei genügender Genauigkeit wirklich jede längere Nebenrechnung überflüssig machen sollen, eine sehr mühsame und zeitraubende Arbeit ist, und scheint dies der Grund, warum sich bisher niemand derselben unterzogen hat.

In Kohlrausch's „Leitfaden der practischen Physik" findet sich pag. 351 eine kleine solche Tabelle zur Reduction auf den Winkel. Dieselbe ist jedoch in so grossen Intervallen gehalten, dass die geradlinige Interpolation bei grösserer Genauigkeit wohl nicht mehr angewendet werden darf. Ferner ist in dem „Handbuche der Elektrotechnik" von Dr. Erasmus Kittler, Bd. I. pag. 149 eine Tabelle berechnet zur

Preface.

Little work is done at present in physical laboratories without the aid of the Gauss-Poggendorff mirror method. This method has become indispensable to every experimental physicist on account of its extensive application, its simplicity and its great accuracy in the measurement of small angular rotations. Every experimentalist, however, is aware what great loss of time and labour is incurred in the calculation of a large number of such observations. It is safe to say, that many researches would have taken up a much smaller space of time, if the observations had not been interrupted by the necessity of the reduction of the scale readings. It is a gread help, even for a particular case, to prepare a table, by means of which, either by interpolation or plotting a curve, every reading can be at once reduced. If however the distance of the scale is altered, it is necessary to construct a new table, and thus, it rarely happens, that previously calculated tables can be used for a new adjustment. It is only by the construction of tables, giving on the one hand the reductions for the readings at sufficiently brief intervals, and on the other hand, containing the same readings for various distances of the scale, that the requirements of every adjustment can be met.

It is clear, that the construction of such tables, if they were to be sufficiently accurate, to render further calculation superfluous, would be a very long and laborious task, and this is probably the reason why, up to the present time, no one has undertaken it. In Kohlrausch's »Leitfaden der praktischen Physik«, (page 35) a small table for reductions to the angle is given. It is, however, constructed with such large intervals, that linear interpolation is no longer permissible, if a considerable degree of accuracy is desired. Further, in Dr. E. Kittler's »Handbuch der Elektrotechnik«, (Vol. I page 149) a table is given for the reduction to the tangent. It contains however the reduction for only 300 divisions of the scale and is besides constructed with quite large intervals.

Just after the completion of the tables

Préface.

Il y a sans doute peu de travaux dans les laboratoires actuels de physique où l'on n'emploie pas la méthode du miroir de Gauss-Poggendorff. Cette méthode est devenue indispensable dans chaque travail de physique expérimentale à cause de ses multiples applications, de sa simplicité et de sa grande précision dans la mesure des petits mouvements rotatoires. Mais tout observateur s'est aussi rendu compte du temps et de l'incommodité que coûte l'évaluation d'une série d'observations. La durée de ces recherches serait considérablement abrégée si l'observateur ne se voyait pas arrêté par la réduction des déviations de l'échelle.

On s'aide, il est vrai, dans un cas donné, en dressant une table au moyen de laquelle, soit par interpolation, soit par le tracé d'une courbe, on peut réduire directement chaque lecture. Toutefois, si la distance de l'échelle varie, il faut dresser une nouvelle table, et il arrive rarement qu'une nouvelle disposition donne l'occasion d'utiliser de nouveau les tables précédemment calculées.

Seules, des tables divisées en deux parties et contenant d'une part, pour chaque lecture de l'échelle, les réductions calculées à des intervalles assez rapprochés, et d'autre part ces mêmes lectures pour différentes distances de l'échelle, seules ces tables peuvent servir pour n'importe quelle disposition.

Il est certain que l'établissement de pareilles tables qui, par leur exactitude suffisante, rendent superflus les longs calculs partiels, demande un travail pénible et qui prend beaucoup de temps; c'est probablement pour cette raison que personne, jusqu'à présent, n'en a tenté l'entreprise.

On trouve, page 357 du «Leitfaden der praktischen Physik» de Kohlrausch, une petite table de ce genre pour la réduction à l'angle, mais elle est calculée à de si grands intervalles qu'on ne peut pas employer l'interpolation rectiligne lorsque la précision doit être grande. Le «Handbuch der Elektrotechnik» du Dr. Erasmus Kittler contient aussi, tome I, page 149, une table calculée pour la réduction à la tangente mais qui ne donne, que les

Reduction auf die Tangente. Dieselbe geht aber nur bis zu Ausschlägen von 300 Scalentheilen und ist auch in ziemlich grossen Intervallen gehalten.

Eben nach Abschluss der hier berechneten Tabellen erschienen von A. v. Sprecher in Zürich, schon umfangreichere Tabellen, welche die Reductionen auf die Tangente und den Sinus des halben Winkels enthalten. Hier sind schon die Ablesungen in genügend engen Intervallen gehalten, nur die Distanzen gehen von Decimeter zu Decimeter weiter, so dass die Interpolation nicht überall so rasch im Kopfe auszuführen ist. Gerade durch das Erscheinen dieser letzteren Tabellen zeigt sich umso deutlicher das Bedürfnis nach diesem Hilfsmittel in den Laboratorien.

Ein weiterer grosser Vortheil solcher Tabellen besteht in der grösseren Sicherheit gegen Rechenfehler. Bei der Berechnung einzelner Reductionswerthe kann leicht ein bedeutender Rechenfehler unbemerkt bleiben; in schematisch angeordneten Tabellen ist durch die stetige Zu- und Abnahme der Differenzen jeder gröbere Rechenfehler ausgeschlossen.

Von dem Gedanken ausgehend, wie viele kostbare Zeit manchem bedeutenden Physiker für wichtige Untersuchungen und die Wissenschaft fördernde Gedanken, erspart werden könnte, entschloss ich mich, den Versuch einer solchen Berechnung von Reductionstabellen zu machen und zwar in einem Umfange, dass dieselben allen Anforderungen, wie sie bei den jetzt gebräuchlichen Messungen in Laboratorien gestellt werden, genügen sollten.

Ich hoffe daher, dass die Mühe und Zeit, welche ich dieser unwissenschaftlichen, schematischen Arbeit gewidmet habe, auf indirectem Wege der Wissenschaft zu Gute kommen und vielen im Laboratorium arbeitenden Physikern und Technikern eine willkommene Unterstützung und Erleichterung bei ihren Untersuchungen bilden wird.

Schliesslich muss ich noch anführen, dass die Anordnung der Tabellen in einer dreisprachigen Ausgabe auf dringendem Wunsche des Herrn Verlegers geschehen ist. Ich ergreife auch an dieser Stelle die Gelegenheit, demselben für alle Mühe und Sorgfalt, welche er auf mein Werk verwendet hat, meinen wärmsten Dank auszusprechen.

Der Verfasser.

contained in this work some tables more extensive than any previous ones containing reductions to the tangent and to the sine of the half angle were published in Zurich by A. v. Sprecher. In these tables the readings are given at sufficiently close intervals, but these have the one drawback, that the distances progress from decimetre to decimetre, so that the interpolation cannot everywhere be easily computed in the head. Their publication proves all the more clearly the want of such an auxiliary in the laboratory.

Another great advantage, to be gained by the use of such tables, is the safe guard which they provide against erroneous computation. In the calculation of single reductions large errors often creep in unperceived, but by substituting systematically arranged tables, serious mistakes are out of the question, owing to the regular increase and decrease of the differences.

Led by the consideration of how much of the valuable time of many physicists might be saved, and devoted instead to important investigations and thoughts for the promotion of science, I resolved to attempt the calculation of a set of Reduction Tables on a scale that would meet all requirements of the present measurements in the laboratory. I hope, therefore, that the time and trouble which I have devoted to this unscientific labour may yet indirectly benefit science, and that the tables may prove a welcome aid in their investigations to many physicists, and draughtsmen.

In conclusion I desire to remark, that the publication of the Tables in three languages has been undertaken at the express wish of the Publisher to whom I take the present opportunity of tendering my best thanks for the great care and pains he has bestowed upon my work.

The Author.

déviations jusqu'à 300 divisions différentes de l'échelle, et qui est également calculée à d'assez grands intervalles.

Précisément au moment où l'on terminait le calcul des tables contenues dans cet ouvrage, A. v. Sprecher publiait à Zurich des tables plus étendues que celles dont nous avons précédemment parlé et qui contiennent les réductions à la tangente et au sinus du demi-angle. Les lectures y sont notées à des intervalles assez rapprochés, mais les distances vont de décimètre en décimètre de sorte que l'interpolation ne peut pas s'effectuer de tête partout aussi promptement. La publication de ces dernières tables prouve plus clairement la nécessité de ces secours auxiliaires dans les laboratoires. La certitude plus grande de ne pas commettre d'erreurs de calcul constitue également un des grands avantages de ces tables. Dans le calcul d'une valeur de réduction, une faute importante peut facilement passer inaperçue; ces tables rangées dans un ordre systématique excluent, par l'addition ou la soustraction des différences, toute erreur importante de calcul.

Je me suis décidé à essayer le calcul des tables de réduction, partant de l'idée qu'elles épargneraient à maints physiciens célèbres un temps précieux qu'ils pourraient consacrer à d'importantes recherches et à des méditations profitables à la science.

J'ai cru nécessaire de donner à ces tables une étendue telle qu'elles puissent répondre à toutes les exigences des mesures actuellement usitées dans les laboratoires.

J'espère que la peine et le temps que m'ont coûté ce travail non scientifique et mécanique serviront indirectement à la science et que cet ouvrage constituera, pour beaucoup de physiciens et de spécialistes travaillant dans les laboratoires, une aide et un allégement agréables dans leurs recherches.

En terminant, je dois encore ajouter que, d'après le pressant désir de l'éditeur, la disposition de ces tables paraît en trois langues. Je saisis ici l'occasion d'exprimer à l'éditeur ma plus vive reconnaissance pour toute la peine et toute la sollicitude qu'il a apportées à mon ouvrage.

L'auteur.

Inhalt.

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Table des matières.

I. Die Gauss-Poggendorff'sche Spiegelablesung.

Um diese Tabellen auch solchen, welche noch nicht mit der Anwendung der Gauss-Poggendorff'schen Spiegelablesung vertraut sind, verständlich zu machen, soll bei Erklärung derselben auch die Theorie dieser Methode in Kürze vorangeschickt werden.

Wer sich über genauere Details dieser Methode informiren will, findet dies in der vorzüglichsten Weise in Kohlrausch's „Leitfaden der practischen Physik" § 48. pag. 161. Ferner ist eine ziemlich detaillirte Darstellung enthalten in der „Allgemeinen Enciklopädie der Physik" von Karsten; Bd. XV, Handbuch des Magnetismus von Lamont. Ebenso enthält das Werk von Mascart und Joubert „Leçons sur l'électricité et le magnetisme" Tome II. pag. 7 eine sehr schöne Darstellung.

Diese Methode wurde im wesentlichen zuerst von Poggendorff[1]) 1826 angewandt und ein Jahr später unabhängig von demselben von Riese.[2]) In ihrer jetzigen Gestalt jedoch ist sie erst von Gauss[3]) ausgebildet und allgemein eingeführt worden.

Sie dient bekanntlich zur Messung kleiner Winkeldrehungen. Man befestigt zu dem Ende nahe an der Drehaxe des Körpers, dessen Winkeldrehung gemessen werden soll, einen Spiegel und zwar so, dass dessen Normale auch Normale zur Drehaxe ist. Nun visirt man aus grösserer Entfernung mit einem Fadenkreuzfernrohre gegen den Spiegel und trachtet in demselben das Bild einer Scala zu erblicken, die knapp über dem Fernrohre, senkrecht zu demselben und auch senkrecht zur Drehaxe des Körpers befestigt ist.

Das Fadenkreuz im Fernrohre wird so gedreht, dass einer der Fäden mit der Drehaxe des Körpers parallel läuft, dann ist der andere parallel mit dem Scalenbilde.

I. Gauss-Poggendorff's Mirror Method.

In order to render the following tables intelligible also to those who are not acquainted with Gauss-Poggendorff's method of taking readings, a short explanation of the theory of the method is subjoined by way of introduction.

Students who wish to enter more thoroughly into all the details of the mirror method will do well to consult Kohlrausch's «Leitfaden der praktischen Physik» § 48, p. 161. Detailed accounts of the mirror method are also contained in the «Encyclopädie der Physik» by Karsten, Vol. XV; and in the «Handbuch des Magnetismus» by Lamont. An excellent description is likewise to be found in Mascart's & Joubert's «Leçons sur l'électricité et le Magnetisme», Vol. II, p. 7.

This method was first employed by Poggendorff[1]) in 1826, and in the following year, independently of him by Riese[2]).

In its present form, however, it was first worked out and generally introduced by Gauss[3]).

This method is employed, it is known, for the measurement of small angular rotations. For this purpose, a mirror is fixed to the rotatory axis of the object, whose angular rotations are to be measured, in such a manner, that the normal to the mirror it also normal to the rotatory axis. It is now necessary to sight from a considerable distance through a telescope provided with cross wires at the mirror, in which is to be seen the image of a scale placed just above the telescope perpendicular to it, and also perpendicular to the rotatory axis of the body.

The cross-wires are turned till one of the *m* becomes parallel with the axis of the rotating object, and the other parallel with the image of the scale. If the central division of the scale just above the teles-

I. De la méthode du miroir de Gauss-Poggendorff.

Afin de rendre ces tables intelligibles même pour les personnes qui ne sont pas familiarisées avec l'usage de la méthode du miroir de Gauss-Poggendorff, leur explication doit être précédée d'un bref exposé de la théorie de cette méthode.

Ceux qui désireraient avoir sur elle des détails plus précis les trouveront parfaitement traités dans le «Leifaden der practischen Physik» de Kohlrausch § 48, page 161. Le tome XV de l'«Allgemeinen Enciclopoedie der Physik» de Karsten, [Handbuch des Magnetismus, de Lamont], contient aussi une exposition assez détaillée de cette méthode.

On peut citer également l'ouvrage de Mascart et Joubert «Leçons sur l'électricité et le magnétisme», tome II, page 7, qui en contient une très-belle description.

Poggendorff[1]) employa le premier en 1826, cette méthode dans ce qu'elle a d'essentiel; un an plus tard, Riese[2]) l'employa également, mais indépendamment de Poggendorff. Toutefois, c'est Gauss seul qui l'a perfectionnée, généralisée et amenée à son état actuel. On sait qu'elle sert à mesurer les petits mouvements rotatoires.

A cette fin, on fixe, près de l'axe de rotation du corps dont on veut mesurer le mouvement rotatoire, un miroir dont la normale soit également celle de l'axe de rotation.

Avec une lunette à réticules, on vise alors le miroir à une assez grande distance et l'on tâche d'y apercevoir l'image d'une échelle fixée juste au-dessus de la lunette et perpendiculairement à celle-ci ainsi qu'à l'axe de rotation du corps.

Les réticules de la lunette doivent être tournés de telle sorte que l'un d'eux soit parallèle à l'axe de rotation du corps; l'autre est alors parallèle à l'image de l'échelle.

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[1]) Pogg. Ann. VII. 121. 1826.
[2]) Pogg. Ann. IX. 97, 1828.
[3]) Götting. Gel. Anz. 1833. No. 205—207.
Gauss und Weber. Result. aus den Beob. des magnet. Ver. 1836. S. 6. 13.

Ist d nicht so gross, dass man bereits mit den ersten zwei Gliedern der Reihe die gewünschte Genauigkeit erreicht, so ist es meist kürzer nach der direkten Formel (1. zu rechnen.

Bei vielen Messungen ist es oft nur notwendig aus den abgelesenen Scalenausschlägen Grössen abzuleiten, die dem Winkel φ oder einer trigonometrischen Funktion desselben proportional sind.

Ist d so gross gegen n, dass die ersten zwei Glieder der obigen Reihenentwicklungen genügen, so ist:

$$\left.\begin{aligned} 2d\,\varphi &= n - \frac{1}{3}\frac{n^3}{d^2} \\ 2d\,tg\,\varphi &= n - \frac{1}{4}\frac{n^3}{d^2} \\ 2d\sin\varphi &= n - \frac{3}{8}\frac{n^3}{d^2} \\ 4d\sin\frac{\varphi}{2} &= n - \frac{11}{32}\frac{n^3}{d^2} \end{aligned}\right\} \quad \ldots . (6.$$

Man hat also von dem Scalenausschlage n, resp. $\frac{1}{3}, \frac{1}{4}, \frac{3}{8}$ oder $\frac{11}{32}\frac{n^3}{d^2}$ abzuziehen, um eine dem Bogen, der Tangente, dem Sinus oder dem Sinus des halben Winkels proportionale Grösse zu erhalten.

Diese Näherungsformeln (6. sind jedoch mit einer gewissen Vorsicht zu gebrauchen, je nach dem Genauigkeitsgrade, welchen man anstrebt.

Liest man die Zehntel der Theilung an der Scala sicher ab, so will man auch bei der Reduction die Zehntel genau haben. Da ferner im Mittelwerthe aus einem Beobachtungssatze bereits die Hundertstel eine gewisse Berechtigung besitzen, so soll die Reductionszahl selbst wenigstens auf ein halbes Zehntel genau sein.

Behält man bei den Näherungsformeln nur das zweite Glied bei, so darf man höchstens bis zu Winkeln von ungefähr 4·5° gehen.

Um an etwas extremeren Beispielen zu zeigen, wie illusorisch oft die Angabe der Hundertstel ist, wenn man schliesslich mit den Näherungsformeln reducirt, sollen in nachfolgender Tabelle den genäherten Werthen der Reduction auf den Winkel, die direct nach Formel (1. berechneten gegenüber gestellt werden:

Should d be not large enough to enable one to attain the requisite accuracy with the first two terms of the series, it is generally the shorter method to calculate by the direct formula (1.

For many measurements it is only necessary to deduce from the scale readings quantities which are proportional to the angle φ or to one of its trigonometrical functions.

Is d so large in comparison with n that the first two terms of the series suffice, then:

$$\left.\begin{aligned} 2d\,\varphi &= n - \frac{1}{3}\frac{n^3}{d^2} \\ 2d\,tg\,\varphi &= n - \frac{1}{4}\frac{n^3}{d^2} \\ 2d\sin\varphi &= n - \frac{3}{8}\frac{n^3}{d^2} \\ 4d\sin\frac{\varphi}{2} &= n - \frac{11}{32}\frac{n^3}{d^2} \end{aligned}\right\} \quad \ldots . (6.$$

Therefore $\frac{1}{3}, \frac{1}{4}, \frac{1}{8}$ or $\frac{11}{32}\frac{n^3}{d^2}$ must be subtracted from the scale readings n, in order to obtain a quantity proportional to the arc, the tangent, the sine or to the sine of the half angle respectively. These approximate formulae (6. are to be used with caution according to the required degree of accuracy. If the tenths on the graduation of the scale have been read off exactly, it will also be desirable that the tenths after the reduction be exact. Moreover, as in the mean value from a series of observations even the hundredths possess a certain importance, also the reduced value itself should at least be accurate within half a tenth. If in the approximate formula only the second term is reserved, angles must not exceed about 4·5 degrees. In order to illustrate by rather extreme examples, how illusory the estimation of the hundredths often is, when finally reduced by the approximate formulae, the values of the reduction to the angle obtained by these formulae are in the following table placed side by side with those calculated directly by formula (1.

Lorsque d n'est pas assez grand pour que les deux premiers termes suffisent pour obtenir l'exactitude souhaitée, il est presque toujours plus court de calculer d'après la formule directe (1.

Dans plusieurs mesures, il suffit souvent de déduire des déviations de l'échelle des quantités proportionnelles à l'angle φ ou à l'une de ses fonctions trigonométriques.

Lorsque d est assez grand par rapport à n pour que les deux premiers termes du développement progressif suffisent, on a:

$$\left.\begin{aligned} 2d\,\varphi &= n - \frac{1}{3}\frac{n^3}{d^2} \\ 2d\,tg\,\varphi &= n - \frac{1}{4}\frac{n^3}{d^2} \\ 2d\sin\varphi &= n - \frac{3}{8}\frac{n^3}{d^2} \\ 4d\sin\frac{\varphi}{2} &= n - \frac{11}{32}\frac{n^3}{d^2} \end{aligned}\right\} \quad \ldots . (6.$$

Il faut alors, de l'indication n de l'échelle, soustraire $\frac{1}{3}, \frac{1}{4}, \frac{3}{8}$ ou $\frac{11}{32}$ de $\frac{n^3}{d^2}$ afin d'obtenir une grandeur proportionnelle à l'arc, à la tangente, au sinus ou au sinus du demi-angle.

Il ne faut, toutefois, employer ces formules approximatives (6 qu'avec une certaine réserve, selon le degré de précision que l'on désire.

Si l'échelle indique exactement des dixièmes de division, ces dixièmes doivent aussi figurer exactement dans la réduction.

Les centièmes des valeurs moyennes observées possédant, de plus, une certaine précision, le chiffre réduit doit être aussi exact à un demi-dixième près.

Si, dans ces formules approximatives, on ne conserve que le deuxième terme, on ne doit pas dépasser des angles d'environ 4·5 degrés.

Afin de montrer par des exemples un peu extrêmes combien l'emploi des centièmes est souvent illusoire quand on ne réduit qu'à l'aide des formules d'approximation, la table suivante donne la comparaison entre les valeurs approchées de la réduction à l'angle et celles calculées directement d'après la formule (1.

Abgelesener Scalenausschlag *[Readings of the Scale]* *[Déviations lues sur l'échelle]* n	Scalendistanz *[Distances of the Scale]* *[Distance de l'échelle]* d	Näherungsformel *[Approximate formula]* *[Formules approximatives]* $\nu' = \frac{1}{3}\frac{n^3}{d^2}$	Genaue Formel *[Accurate formula]* *[Formules exactes]* $\nu = n - 2d\,\varphi$	Differenz *[Differences]* *[Différences]* $\nu' - \nu$	Fehler in Procenten *[Percentage Error]* *[Erreurs dans le pour-cent]*
500	4000 mm	2·61	2·58	0·03	0·01 %
500	3000 mm	4·63	4·55	0·08	0·02 %
500	2000 mm	10·42	10·04	0·38	0·08 %
500	1500 mm	18·55	17·37	1·18	0·24 %
500	1000 mm	41·67	36·35	5·32	1·06 %

Es sind also kaum bei einer Scalendistanz von drei Metern beim grössten einseitigen Ausschlage mehr die Zehntel nach der Näherungsformel genau.

II. Ausmessung der Dimensionen der Aufstellung.

1.) Die Ablesescala.

Man kann die Ablesescala selbst als Maassstab benützen und mit derselben alle übrigen Längen ausdrücken. Meist ist es jedoch gebräuchlich die vorkommenden Distanzen in Millimetern auszudrücken. Man vergleicht daher die Scala, die ohnedies meist in Millimeter getheilt ist mit einem Normalmaassstabe.

Nehmen dabei die M Scalentheile, in welche die Scala getheilt ist, eine Länge von N Millimetern ein, so ist jede Ablesung n mit $\frac{N}{M}$ zu multipliciren, um sie in Millimetern auszudrücken.

2.) Die Scalendistanz.

Legt man durch die Ablesescala, welche senkrecht zur Visur des Fernrohres gedacht ist, eine verticale Ebene, so ist unter der Scalendistanz der senkrechte Abstand zu verstehen, welchen diese Ebene von der zu ihr parallelen Spiegelebene besitzt.

Diese Distanz kann wieder direct mit der Ablesescala ausgemessen werden oder, wenn man dieselbe im Metermaasse ausdrücken will, mit einem Messbande. Will man die Scalenausschläge nur auf proportionale Grössen reduciren, also nur Correctionsgrössen rechnen, so ist bei etwas grösserer Scalendistanz die Ausmessung blos auf Centimter genau notwendig. Hat man jedoch einen absoluten Werth zu rechnen, dann ist mit grösserer Sorgfalt vorzugehen. Man wendet da Distanzlatten an, die man knapp an dem Mittelstriche der Scala und dem Aufhängefaden des Spiegels vorüberführt. Dann werden durch Visuren oder herabhängende Lothe Marken auf der Latte gemacht, die dann mit einem Normalmaassstabe ausgemessen werden.[1])

3.) Obwohl die Genauigkeit der Methode[2]) von der Aufstellung unabhängig ist und nur durch das Fernrohr

[1]) Näheres hierüber findet sich in F. und W. Kohlrausch's Abhandlung „Das electrische Aequivalent des Silbers". Wiedem. Ann. Bd. 17. pag. 8

[2]) Mascart und Joubert, „Lehrbuch der Electricität und des Magnetismus" § 667.

With a scale distance of 3 metres, it will thus be seen that, reduced by the approximate formulae, the tenths are barely accurate in case of the greatest deflection to one side measurable on the scale.

II. Measurement for the Adjustment.

1.) The scale.

The scale may itself be used as a measure and all other lengths may be expressed in terms of it. It is usual, however, to express the distances in millimetres. The scale, which is though generally divided into millimetres, may be compared with a standard measure.

If it is found that M division of the scale have a length N millimetres, every reading, n must be multiplied by $\frac{N}{M}$ in order to be expressed in millimetres.

2.) The distance of the scale.

If a vertical plane be drawn through the scale which is supposed to be perpendicular to the line of vision of the telescope, then by the distance of the scale is meant the perpendicular distance from this plane to the parallel plane of the mirror. — This distance again may be measured either with the scale itself, or, if it be desired to express it in metres, by means of a tape measure. If the readings of the scale are only to be reduced to proportional quantities, that is, if corrections are alone to be calculated, the measurement, provided the scale be placed at a reasonable distance, need only be taken in centimetres. If however, an absolute value is to be calculated it is necessary to proceed more carefully. Straight poles or sticks are used in this case which are made to pass close by the middle division of the scale and the suspension fibre of the mirror. Then, either by sighting or by means of plumb lines, marks are made on the poles whose distance is then measured by a standard measure.[1])

3.) Although the accuracy of the method[2]) is not dependent on the adjustment, but only on the telescope and

[1]) Further information on this subject is found in F and W Kohlrausch's article: „Das elektrotechnische Aequivalent des Silbers". Widem. Ann. Bd. 17, pag. 8.

[2]) Mascart and Joubert „Lehrbuch der Elektricität und des Magnetismus" § 667.

Donc, lorsque l'échelle est éloignée de trois mètres et qu'on observe la plus grande déviation d'un seul côté, les dixièmes obtenus d'après les formules d'approximation sont à peine exacts.

II. Manière de mesurer les dimensions de l'arrangement de tout l'appareil.

1.) L'échelle.

On peut se servir de l'échelle elle-même pour mesurer toutes les autres longueurs. Il est pourtant d'usage d'énoncer toutes les distances en millimètres. On compare, par conséquent l'échelle qui, du reste, est presque toujours divisée en millimètres, avec un étalon du mètre.

Admettons que les M divisions en qui est partagée l'échelle aient une longueur de N millimètres; chaque lecture n devra être alors multipliée par $\frac{N}{M}$ afin d'être exprimée en millimètres.

2.) Distance de l'échelle.

Si par l'échelle, qui est supposée perpendiculaire à la ligne de visée de la lunette, on mène un plan vertical, la distance de l'échelle est représentée par l'écart perpendiculaire entre ce plan et son parallèle le plan du miroir.

Cette distance peut être de nouveau mesurée directement avec l'échelle, ou, si l'on veut l'exprimer en mesure métrique, avec une mesure en ruban.

On ne désire quelquefois réduire les déviations de l'échelle qu'à des grandeurs proportionnelles, c'est à dire ne calculer que des grandeurs de correction; dans ce cas, la mesure n'a besoin que d'être exactement exprimée en centimètres lorsque la distance à laquelle l'échelle est placée est assez grande. Toutefois, quand on a à calculer une valeur absolue, il faut procéder avec une plus grande attention.

On fixe une longue règle tout près du trait médian de division de l'échelle ainsi que du fil auquel est suspendu le miroir. Ensuite, par des visées ou au moyen de fils à plomb, on fait sur la règle des marques qui sont alors mesurées à l'aide d'un étalon.[1])

3.) Quoique l'exactitude de la Méthode[2]) soit indépendante de l'arrange-

[1]) On trouve de plus amples détails à ce sujet dans le traité de F. et W. Kohlrausch: «das electrochemische aequivalent des Silbers». Wiedem. Ann. Bd 17. page 8.

[2]) Mascart et Joubert. Leçons sur l'électricité et el magnetisme. § 667.

und die Dimensionen des Spiegels bedingt ist, so empfiehlt es sich dennoch aus anderen Gründen gewisse Dimensionen in der Aufstellung beizubehalten.

Je nach dem Grade der Vergrösserung wird man immer trachten sich soweit vom Spiegel aufzustellen, dass die Theilstriche der Scala auch bei den grössten Ausschlägen deutlich bleiben.

In manchen Fällen, besonders bei starker Vergrösserung des Fernrohres und entsprechend grossem und gutem Spiegel, empfiehlt es sich, die Scala vom Fernrohre zu trennen und letzteres dem Spiegel zu nähern, während man erstere von demselben entfernt. Man kann dadurch gleiche Grösse des Scalenbildes bei verschieden grossen Scalendistanzen erhalten.

III. Correctionen.[1]

Ist die Aufstellung mehr von dem Schema Fig. 1. abweichend oder ist andererseits eine grosse Genauigkeit, besonders bei Beobachtungen absoluter Werthe gewünscht, so kommen folgende Correctionen in Betracht.

1. Wegen Deckglasdicke.

Hat die Visirlinie, welche vom Spiegel zur Scala geht, Glasplatten zu passiren, so ist zu beachten, dass jeder Lichtstrahl, welcher schief eine planparallele Platte durchsetzt, eine zu seiner Anfangsrichtung parallele Verschiebung erleidet. Er scheint

[1]) Die hier angeführten Correctionen sind sämtliche bis auf No. 5 und 7 in einer Abhandlung von F. Kohlrausch „Ueber die Correctionen bei einer Winkelmessung mit Spiegel und Scala" Wiedem. Ann. Bd. 31 pag. 95. enthalten und Ableitungen dazu gegeben. Correction 2 und die zweite Hälfte von 6 (Bestimmung von r) sind hier auch darnach wieder gegeben. Correction 4 und 7 verdanke ich einer privaten Mittheilung meines Onkels Prof. F. Lippich in Prag. Die übrigen Correctionen glaubte ich in der hier gegebenen Weise dem populären Charakter dieser Erläuterungen zu den Tabellen entsprechender.

the size of the mirror, still on other grounds certain dimensions in the adjustment should be observed. One must always endeavour, according to the degree of magnification to place the telescope and scale at such a distance from the mirror, that even the outermost divisions of the scale are perfectly distinct. In many cases, especially when a strong magnifying telescope is used, together with a correspondingly large and perfect mirror, it is advantageous to separate the scale from the telescope, moving the latter nearer to the mirror and the former farther from it. By this means an equally large image of the scale can be obtained at various distances from the mirror.

III. Corrections.[1]

If the adjustment departs to a palpable extent from the plane given in Fig. 1 or, if, on the other hand, a greater accuracy is desired especially where absolute values are required, the following corrections must be made.

1. For thickness of the glass in front of the mirror.

If the line of vision in passing from the mirror to the scale has to part through

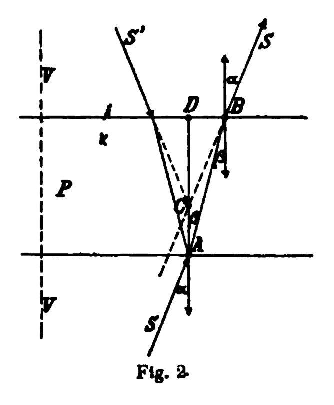


Fig. 2.

glass plates, it is to be remembered that every ray of light which traverses obliquely a glass plate with parallel sides

[1]) The corrections here given are with the exception of Nos 5 and 7 contained together with their deduction in a treatise by J. Kohlrausch „Ueber die Correctionen bei einer Winkelmessung mit Spiegel und Scala" Wiedem. Ann. Vol. 31 pag. 95. Also Correction No 2 and the second half of No. 6 (Determination of r) are taken from the same source. I am indebted for corrections Nos 4 and 7 to a private communication of my uncle Prof. F. Lippich in Prague. The here given form of the other corrections I believe to be more consistent with the popular character of the explanations given with the following Tables.

ment et ne dépende que de la lunette et des dimensions du miroir, il y a, cependant, pour d'autres motifs, certaines dimensions qu'il est bon d'observer dans la disposition de l'appareil.

D'après le degré du grossissement on doit toujours tâcher de se placer à une distance du miroir telle que les traits de division de l'échelle restent distincts même dans les plus grandes déviations.

En certains cas, et principalement dans celui d'un fort grossissement de la lunette et d'un miroir suffisamment grand et bon, on recommande de séparer l'échelle de la lunette et de rapprocher celle-ci du miroir tandis qu'on en éloigne celle-là. Il est possible par ce moyen d'obtenir des images de l'échelle d'égale grandeur à des distances différemment grandes de l'échelle.

III. Corrections.[1]

Lorsque l'arrangement de l'appareil diffère sensiblement du modèle donné dans la figure 1, ou bien quand on désire une grande précision, principalement dans les observations dont la valeur doit être absolue, il faut tenir compte des corrections suivantes.

1. Touchant l'épaisseur de la lame de verre.

Lorsque la ligne de visée, qui va du miroir à l'échelle, doit passer à travers des lames de verre, il faut tenir compte de ceci: chaque rayon lumineux qui traverse obliquement une lame à plans

[1]) Toutes les corrections citées ici sont contenues, excepté les Nos. 5 et 7, dans un traité de F. Kohlrausch: «Ueber die Correctionen bei einer Winkelmessung mit Spiegel und Scala» Wiedem. Ann. Bd. 31 pag. 95, ainsi que leurs développements. Le développement de la correction 2, ainsi que de la deuxième moitié de la correction 6 (détermination de r) ont également la même provenance. Je suis redevable du développement des corrections 4 et 7 à une communication particulière de mon oncle. Mr. F. Lippich. professeur à Prague. Pour les autres corrections, j'ai cru qu'elles seraient, telles qu'elles sont, plus conformes au caractère vulgarisateur des explications de ces tables.

also nicht aus einer Entfernung d auf die Scala zu treffen, sondern aus einer etwas geringeren.

Ist Fig. 2. P die Glasplatte von der Dicke p, V die Verbindungslinie von Spiegel und mittelstem Scalentheile, so sei S ein am Spiegel reflectirter Lichtstrahl, der gegen die Scala gerichtet ist.

Er treffe in A unter dem Winkel α auf die Platte, dann wird er unter dem Winkel β in derselben zum Lothe gebrochen. In B verlässt er die Platte wieder, indem er unter dem Winkel α austritt.

Verlängert man seine Richtung über B nach Rückwärts, bis er die Plattennormale AD in C trifft, so ist $AC=x$ die Parallelverschiebung, welche der Strahl S in der Richtung V erleidet.

Aus Fig. 3 ist ersichtlich, dass:

$$AD\ tg\ \beta = CD\ tg\ \alpha$$

oder:

$$p\ tg\ \beta = (p - x)\ tg\ \alpha$$

daher:

$$\frac{p}{p-x} = \frac{tg\ \alpha}{tg\ \beta}$$

Da die Winkel α und β hier stets klein sind, so kann statt $tg\ \alpha / tg\ \beta$ genügend genau gesetzt werden: $\sin\alpha/\sin\beta = n$ wo n den Brechungsexponenten der Glasplatte bedeutet. Es ist daher:

$$x = \frac{n-1}{n} p \quad \ldots\ldots (7.$$

constant für alle Strahlen S, und die aus der Platte tretenden Strahlen verhalten sich grade so, als würden sie von einem Spiegel reflectirt, der um x der Platte näher liegt.

n kann man ungefähr zu $^3/_2$ annehmen, so dass:

$$x = \frac{p}{3}$$

wird. Man hat also $^1/_3$ der Plattendicke von der Scalendistanz abzuziehen.

2. Wegen Deckglaskrümmung.

Sind die Flächen eines Deckglases nicht ganz plan, so kann auch hieraus eine Correction entspringen, welche um so grösser ist, je weiter das Deckglas vom Spiegel entfernt ist.

f sei die Brennweite des Deckglases, welche positiv oder negativ zu nehmen ist, je nachdem das Deckglas als Sammel- oder Zerstreuungslinse wirkt. e sei der

suffers a displacement parallel to its initial direction. — It does not therefore appear to reach the scale from a distance d, but from a lesser distance.

Let P be the plate of glass of thicknes s p, V the line connecting the mirror and the central division of the scale. Then let S be a ray of light reflected on the scale by the mirror and suppose A to be the point where it enters the glass at the angle α; then it will be refracted in the latter at the angle β to the perpendicular, and at the point B it emerges from the glass at the angle α. — Extending it in the opposite direction beyond B, it will meet AD, the normal to the glass at a point C; then $AC=x$ is the parallel displacement to which the ray S is subjected in the direction V.

From Fig. 3 it will be seen that:

$$AD\ tg\ \beta = CD\ tg\ \alpha$$

or:

$$p\ tg\ \beta = (p - x)\ tg\ a$$

therefore:

$$\frac{p}{p-x} = \frac{tg\ \alpha}{tg\ \beta}$$

As the angles α and β are here always small, for $tg\ \alpha / tg\ \beta$ can be placed with sufficient accuracy: $\sin\alpha/\sin\beta = n$ where n is the index of refraction of the glass:

$$x = \frac{n-1}{n} p \quad \ldots\ldots\ldots (7.$$

is constant for all rays S, and the rays emerging from the glass are therefore to be identified with rays reflected from a mirror nearer to the plate by the distance x.

n can be assumed equal to nearly $^3/_2$ so that:

$$x = \frac{p}{3}$$

Therefore $^1/_3$ of the thickness of the glass must be subtracted from the distance of the scale.

2. For curvature of the glass in front of the mirror.

If the surfaces of the glass in front of the mirror are not quite plane, a correction may arise therefrom, which becomes greater, the further the glass is from the mirror.

Let f be the focal distance of the glass, which is to be taken positive or negative according as the glass acts at a convergent

parallèles éprouve une déviation parallèle à sa direction initiale.

Ce rayon semble alors rencontrer l'échelle non à une distance d, mais à une distance un peu moindre.

Dans la figure 2, P représente une lame de verre de l'épaisseur p; V la ligne de jonction entre le miroir et le point médian de division de l'échelle, et S un rayon lumineux réfléchi par le miroir et dirigé vers l'échelle.

Ce rayon arrivant en A sur la lame, sons l'angle α, y est diffracté vers la normale en formant avec celle-ci l'angle β.

Si en B on prolonge en arrière la direction de ce rayon jusqu'à ce qu'il arrive en G à la normale AD de la lame, $AG = x$ est la déviation parallèle qui subit le rayon S dans la direction V.

Il est évident, d'après la figure 3, que:

$$AD\ tg\ \beta = GD\ tg\ \alpha$$

ou bien:

$$p\ tg\ \beta = (p - x)\ tg\ \alpha$$

d'où:

$$\frac{p}{p-x} = \frac{tg\ \alpha}{tg\ \beta}$$

Les angles α et β étant ici toujours petits, on peut remplacer $tg\ \alpha / tg\ \beta$, avec une précision suffisante, par $\sin\alpha/\sin\beta = n$ où n représente l'indice de réfraction de la lame de verre. Il vient de là la formule:

$$x = \frac{n-1}{n} p \quad \ldots\ldots (7.$$

qui est constante pour tous les rayons S; tous les rayons qui sortent de la lame se comportent exactement comme s'ils étaient réfléchis par un miroir qui serait plus rapproché de la lame d'une distance x.

On peut admettre que n ait à peu près la valeur $^3/_2$, de sorte que:

$$x = \frac{p}{3}$$

On a donc $^1/_3$ de l'épaisseur de la lame à soustraire de la distance de l'échelle.

2. Touchant la courbure de la lame.

Lorsque les faces d'une lame ne sont pas exactement planes, cela peut donner également lieu à une correction qui est d'autant plus grande que la lame est plus éloignée du miroir.

Soit f la distance focale de la lame, qui doit être prise positivement ou négativement selon que la lame a l'effet d'une butille convexe ou d'une butille concave.

Abstand des Deckglases vom Spiegel. Spiegelnormale und Axe des Deckglases sollen in der Ruhelage zusammenfallen, respective in derselben Verticalebene liegen.

In Figur 3 stellt s den in O drehbaren Spiegel, DD' das Deckglas in der Entfernung $OD = e$ und SS' die Scala in der Entfernung $OS = d$ vom Spiegel dar. In der Ruhelage wird ein Centralstrahl vom Spiegel wieder in sich durch das Deckglas zurückreflectirt. Ist der Spiegel um den Winkel φ gedreht, so wird der Strahl um $2\varphi = \alpha$ gedreht zurückgeworfen. Er trifft also das Deckglas im Abstande $e\,\alpha = h$ von seinem Mittelpunkte.

or divergent lens. Let e be the distance of the glass from the mirror. In the position of rest suppose the normal to the mirror and the axis of the glass over it to coincide with one another or lie in the same vertical plane.

In Fig. 3 s shows the mirror turning in O, DD' the glass over the mirror at the distance $OD = e$, and SS' the scale at the distance $OS = d$ from the mirror. In the position of rest a central ray will be reflected back on itself from the mirror through the glass. If the mirror is turned through the angle φ the ray will be reflected at an angle $2\varphi = \alpha$. It therefore

Soit e la distance entre la lame et le miroir.

La normale du miroir et l'axe de la lame doivent coïncider à l'état de repos, c'est à dire être dans le meme plan vertical.

Dans la figure 3, s représente le miroir pouvant tourner en O, DD' la lame éloignée du miroir de $OD = e$ et SS' l'échelle éloignée du miroir de $OS = d$.

A l'état de repos, un rayon central venant du miroir est réfléchi en lui-même à travers la lame.

Si le miroir a tourné de l'angle φ, le rayon est réfléchi de $2\varphi = \alpha$. Il rencontre alors la lame à une distance $e\,\alpha = h$ du

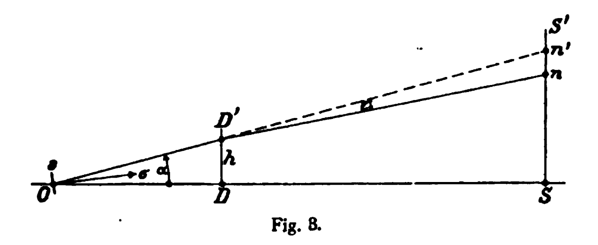


Fig. 3.

Stellt nun das Deckglas eine Linse von der Brennweite f dar, so wird der Strahl etwas abgelenkt werden, und zwar so, als ob er, wenn O den Gegenstand repräsentirt, aus dem zugehörigen Bildpunkte käme. Heisst die Bildweite b, so ist:

$$\frac{1}{f} = \frac{1}{e} + \frac{1}{b}$$

Es ist daher:

$$b = \frac{f\,e}{f - e}$$

Bildet dieser Strahl, welcher aus dem Bildpunkte in der Entfernung b von dem Deckglase kommt, mit der Richtung OS den Winkel β, so ist:

$$\alpha - \beta = \varepsilon$$

der Winkel, um welchen der am Spiegel reflectirte Strahl durch das Deckglas abgelenkt wurde.

Es ist:

$$\alpha = \frac{h}{e} \text{ und: } \beta = \frac{h}{b} = \frac{h\,(f - e)}{f\,e}$$

daraus folgt:

$$\alpha - \beta = \frac{h}{f}$$

oder:

$$\varepsilon = \frac{\alpha\,e}{f}$$

intersects the glass at the distance $\alpha\,e = h$ from its centre.

Now if the glass is a lens with the focal distance f, the ray will be somewhat deflected and in such a way as if it came from the image of the object o. Let b be the distance of the image, then:

$$\frac{1}{f} = \frac{1}{e} + \frac{1}{b}$$

Therefore:

$$b = \frac{fe}{f - e}$$

If the ray, proceeding from the point of the image at the distance b from the glass form with the direction OS the angle β, then:

$$\alpha - \beta = \varepsilon$$

the angle at which the ray reflected from the mirror is deflected by the glass.

Let:

$$\alpha = \frac{h}{e} \text{ and } \beta = \frac{h}{b} = \frac{h\,(f - e)}{fe}$$

then:

$$\alpha - \beta = \frac{h}{f}$$

or:

$$\varepsilon = \frac{\alpha\,e}{f}$$

centre de celle-ci. Si l'on admet que la lame soit une lentille dont la distance focale est f, le rayon sera un peu diffracté; si O représente l'objet, cette diffraction sera la même que si le rayon venait du lieu de l'image du point rayonnant correspondant à O. Soit b l'éloignement de l'image, on a:

$$\frac{1}{f} = \frac{1}{e} + \frac{1}{b}$$

D'où:

$$b = \frac{f\,e}{f - e}$$

Si ce rayon, qui arrive du lieu de l'image du point rayonnant à la distance b de la lame, fait avec la direction OS l'angle β,

$$\alpha - \beta = \varepsilon$$

est l'angle dont le rayon réfléchi par le miroir est diffracté en passant par la lame,

On a:

$$\alpha = \frac{h}{e} \text{ et } \beta = \frac{h}{b} = \frac{h\,(f - e)}{f\,e}$$

d'où il s'en suit:

$$\alpha - \beta = \frac{h}{f}$$

ou

$$\varepsilon = \frac{\alpha\,e}{f}$$

Ohne Deckglas würde der Scalenausschlag $2\varphi d$ sein, durch das Deckglas wird er um:

$$\varepsilon (d - e) = \frac{2\varphi e}{f} (d - e)$$

verkleinert.

Dies wäre das Stück nn'; abgelesen wurde der Scalenausschlag n, es ist daher:

$$n = 2\varphi d - \frac{2\varphi e}{f} (d - e)$$

daraus folgt:

$$2\varphi = \frac{n}{d - e\frac{d-e}{f}}$$

Es ist also statt der gemessenen Scalendistanz d, einzuführen die Distanz:

$$d' = d - e\frac{d-e}{f} \quad \ldots\ldots (8.$$

Bestimmung der Brennweite f. — Ein Fernrohr wird auf einen Maasstab mit vertikalen Theilstrichen, ohne Parallaxe eingestellt. Der Abstand des Maassstabes vom Objectiv sei $= L$. Nun wird das Deckglas in derjenigen Lage, welche dasselbe am Instrumente hat, dicht vor das Objectiv gebracht. Der Abstand, welchen jetzt der Maassstab vom Fernrohrobjectiv haben muss, damit die Parallaxe verschwindet, sei L'. Dann ist offenbar:

$$\frac{1}{f} = \frac{1}{L'} - \frac{1}{L}$$

also:

$$f = \frac{LL'}{L - L'}$$

3. Wegen Spiegeldicke.

Bei Metallspiegeln oder an der Vorderseite versilberten Glasspiegeln, ist diese spiegelnde Fläche auch wirklich die Stelle, auf welcher der Scheitel des zu messenden Winkels 2φ liegt. Man hat also als zugehörige Scalendistanz bis zur spiegelnden Fläche zu messen. Ist der Spiegel jedoch aus Glas und die Rückseite spiegelnd, so liegt diese spiegelnde Fläche wegen der Brechung scheinbar etwas näher an der vorderen Glasfläche, so dass statt der wirklichen Spiegeldicke seine sogenannte optische Dicke zur gemessenen Scalendistanz hinzuzufügen ist.

Stellt in Figur 3 jetzt P den Spiegel dar und sei bei A die spiegelnde Fläche, so wird ein unter dem Winkel α auffallen-

If the glass were not there the scale reading would be $2\varphi d$, taken through the glass it is diminished by:

$$\varepsilon (d - e) = \frac{2\varphi e}{f} (d - e)$$

This would be the piece nn'; the actual reading was however n; therefore:

$$n = 2\varphi d - \frac{2\varphi e}{f} (d - e)$$

consequently:

$$2\varphi = \frac{n}{d - e\frac{d-e}{f}}$$

Thus instead of the measured distance d, there must be introduced the distance:

$$d' = d - e\frac{d-e}{f} \quad \ldots\ldots (8.$$

Determination of the focal distance f. — A telescope is focussed on a scale with vertical graduations without parallax. Let the distance of the scale from the objective be L. Now the glass plate in front of the mirror is placed just in front of the objective of the telescope in the same position that it has on the instrument. Let L' be the distance from the objective at which the scale must now be placed in order to make the parallax vanish. Then plainly:

$$\frac{1}{f} = \frac{1}{L'} - \frac{1}{L}$$

therefore:

$$f = \frac{LL'}{L - L'}$$

3. For Thickness of the Mirror.

With metal mirrors, or mirrors silvered on their front side, the reflecting surface is also the place where the vertex of the angle 2φ to be measured lies. The distance of the scale is therefore to be measured to this reflecting surface. — If the mirror, however, is of glass, and the reflection takes place from the back side of it, then this reflecting surface lies apparently a little nearer to the front surface on account of the refraction, so that instead of the actual thickness of the mirror its so-called optical thickness is to be added to the measured distance of the scale.

In Fig. 2 let P be the mirror and A the reflecting surface; then the ray S incident at the angle α will be refracted to

Sans la lame, la déviation de l'échelle serait $2\varphi d$; elle doit être diminuée de:

$$\varepsilon (d - e) = \frac{2\varphi e}{f} (d - e)$$

à cause de la lame.

Dans le cas qui nous occupe, nn, serait la longueur de cette diminution, et n est la déviation lue sur l'échelle; de là vient:

$$n = 2\varphi d - \frac{2\varphi e}{f} (d - e)$$

d'où il suit:

$$2\varphi = \frac{n}{d - e\frac{d-e}{f}}$$

Par conséquent, il faut, au lieu de la mesure de la distance d de l'échelle, introduire la distance:

$$d' = d - e\frac{d-e}{f} \quad \ldots\ldots (8.$$

Détermination de la distance focale f. On règle une lunette braquée sur une échelle à traits verticaux de division et sans parallaxe. Soit L la distance de l'échelle à l'objectif. On place alors tout près de l'objectif et devant lui la lame en lui donnant la même position qu'elle occupe dans l'instrument.

Soit L' la distance qui doit séparer l'échelle de l'objectif afin que la parallaxe disparaisse. Il est alors évident que

$$\frac{1}{f} = \frac{1}{L'} - \frac{1}{L}$$

par conséquent:

$$f = \frac{LL'}{L - L'}$$

3. A propos de l'épaisseur du miroir.

Dans les miroirs métalliques ou à la partie autérieure des miroirs de verre argenté, cette surface réfléchissante est véritablement l'endroit où se trouve le sommet de l'angle 2φ que l'on doit mesurer. Il faut alors mesurer la distance correspondante de l'échelle jusqu' à la surface réfléchissante. Cependant, si le miroir est de verre et si c'est sa face postérieure qui est réfléchissante, cette surface, à cause de la diffraction, paraît être plus rapprochée de la surface autérieure, de sorte qu'au lieu de l'épaisseur réelle du miroir c'est celle appelée épaisseur optique qui doit être ajoutée à la mesure exprimant la distance de l'échelle. Admettons maintenant que dans la figure 2

der Strahl S' nach A gebrochen, von hier nach B reflectirt und tritt dann wieder unter dem Winkel α aus. Es ist ersichtlich, dass der Scheitel des Winkels 2α, welchen der einfallende und reflectirte Strahl bilden, in C liegt. Also in einem Punkte, der um die Strecke CD hinter der vorderen Fläche des Spiegels liegt.

Aus dem früheren folgt:

$$CD = p\frac{tg\,\beta}{tg\,\alpha} = \frac{p}{n}$$

Nimmt man wieder n zu $^3/_2$ an, so hat man zu dem Scalenabstande noch $^2/_3$ der Spiegeldicke hinzuzufügen.

4. Wegen Spiegelneigung.

Der Spiegel soll eine Neigung gegen die Drehaxe haben, aber so, dass seine Normale in der Ruhelage in jener Ebene gelegen ist, welche man durch die Drehaxe und mittelsten Scalentheile legt.

Es sei VO die verticale Drehaxe des Spiegels s, OF die Visirrichtung des Fernrohres, ON die Spiegelnormale, OS der vom mittleren Scalentheile kommende Strahl, OH der Abstand des Spiegels von der Scalenebene. Alle diese 5 Richtungen liegen in einer Ebene.

A and thence reflected to B to emerge again at the angle α.

It is evident that the vertex of the angle 2α which is formed by the incident and reflected rays lies in C, thus at a point lying at the distance CD behind the front surface of the mirror.

From what has been said above follows:

$$CD = p\frac{tg\,\beta}{tg\,\alpha} = \frac{p}{n}$$

Again assuming n equal to $^3/_2$, it is obvious that of the thickness of the mirror must be added to the distance of the scale.

4. For the Inclination of the Mirror.

The mirror should have an inclination to the rotatory axis, yet in such a way that its normal in the position of rest lies in the plane which passes through the rotatory axis and the central division of the scale.

Let VO be the vertical axis of the mirror s, OF the line of vision of the telescope, ON the normal to the mirror. OS the ray proceeding from the middle division of the scale, and OH the distance of the mirror from the plane of the scale. All these five directions lie in one plane.

P répresénte le miroir et que A soit la surface réfléchissante; un rayon S' y tombant sous l'angle α sera diffracté vers A puis réfléchi de la vers B et sortira également sous l'angle α.

Il est évident que le sommet de l'angle 2α que forment le rayon incident et le rayon réfléchi se trouve en C, c'est à dire en un point qui est reporté en arrière de la face antérieure du miroir de la distance CD.

D'après ce qui précède, il suit:

$$CD = p\frac{tg\,\beta}{tg\,\alpha} = \frac{p}{n}$$

Si l'on donne de nouveau à n la valeur $^3/_2$ on a encore à ajouter $^2/_3$ de l'épaisseur du miroir à la distance de l'échelle.

4. A propos de l'obliquité du miroir.

Le miroir doit avoir par rapport à l'axe de rotation, une position oblique, mais telle que sa normale se trouve à l'état de repos dans le plan conduit par l'axe de rotation et par le point médian de division de l'échelle.

Soit VO l'axe vertical de rotation du miroir s, OF la ligne de visée de la lunette, ON la normale du miroir, OS le rayon venant du point médian de division de l'échelle, OH l'écart entre le miroir et le plan de l'échelle. Ces cinq lignes sont dans un même plan.

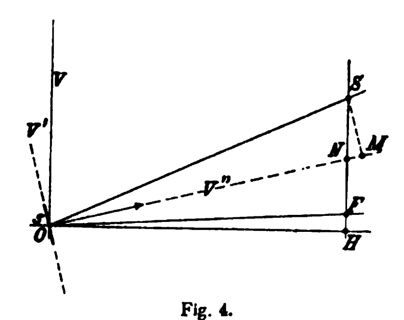


Fig. 4.

Wegen des Reflectionsgesetzes ist: $\sphericalangle SON = \sphericalangle NOF$. Wir bezeichnen: $\sphericalangle VOF = b$; $\sphericalangle VON = c$; $OH = d$.

Der Drehungswinkel um V sei sehr klein, dann kann man die Drehung um V zerlegen in eine Drehung um V', in der Ebene des Spiegels und in eine Drehung um V'', diese senkrecht zum Spiegel gelegt.

Ist φ der Drehungswinkel um V, der n Intervalle der Scala durch den Faden führt, so ist die nach V' entfallende Componente dieser Drehung: φ sin c. Für

According to the law of reflection: $\sphericalangle SON = \sphericalangle NOF$. We put: $\sphericalangle VOF = b$, $\sphericalangle VON = c$, and $OH = d$. — Suppose the angle of rotation about V to be very small, then the rotation about V can be resolved into a rotation about V' in the plane of the mirror, and into a rotation about V'', perpendicular to the mirror. — If φ is the angle of rotation about corresponding to a change of n divisions on the scale, then φ sin c is the component of this rotation in the direction V'. For this component the same

Conformément à la loi de réflexion, on a: $\sphericalangle SON = \sphericalangle NOF$. Désignons: $\sphericalangle VOF = b$; $\sphericalangle VON = c$; $OH = d$.

Admettons que l'angle de rotation autour de V soit très-petit; on peut alors décomposer la rotation autour de V en une rotation autour de V' qui se trouve dans le plan du miroir et en une seconde rotation autour de V'', celle-ci perpendiculaire au miroir.

Si φ représente l'angle de rotation autour de V, angle qui fait passer n intervalles de l'échelle devant les réticules, la

diese verhält sich alles so, wie im Falle des Zusammenfallens der Drehaxe mit der Spiegelebene. Die nach V'' entfallende Componente der Drehung kommt garnicht in Betracht, da sie gar keine Verschiebung des Scalenbildes veranlasst, sondern den Spiegel in seiner Ebene dreht.

Ist also die senkrechte Entfernung von S vom Spiegel $= OM$, so hat man:

$$\varphi \sin c = \frac{n}{2\,OM}$$

Nun ist aber:

$$\sphericalangle SOM = b - c;$$

und

$$\sphericalangle SOH = \frac{\pi}{2} - (2c - b)$$

ferner:

$$OM = OS \cos(b - c)$$
$$d = OS \sin(2c - b)$$

so dass man hat:

$$\varphi = \frac{n}{2d} \frac{\sin(2c - b)}{\sin c \cos(b - c)}$$

oder wenn man setzt:

$$\sphericalangle SON = b - c = \alpha$$
$$\sphericalangle NOH = \frac{\pi}{2} - c = \beta$$

so ist:

$$\sphericalangle SOH = \frac{\pi}{2} - (2c - b) = \alpha + \beta$$

daher weiters:

$$\varphi = \frac{n}{2d} \frac{\cos(\alpha + \beta)}{\cos\alpha \cos\beta}$$

Da die Winkel α und β als klein vorausgesetzt werden, so kann man bei Berechnung einer Correctionsgrösse die ersten Glieder der Reihenentwicklungen für die Cosinuse und Sinuse von α und β nehmen. Es ist dann:

$$\frac{\cos(\alpha + \beta)}{\cos\alpha \cos\beta} = 1 - \frac{\sin\alpha \sin\beta}{\cos\alpha \cos\beta} = 1 - \alpha\beta$$

Dadurch wird:

$$\varphi = \frac{n}{2d}(1 - \alpha\beta) = \frac{n}{2d(1 + \alpha\beta)}$$

Nun ist:

$$\alpha = \frac{HN}{d} \text{ und: } \beta = \frac{FN}{d}$$

daher:

$$d(1 + \alpha\beta) = d + \frac{HN \cdot FN}{d} \quad \ldots (9.$$

principles hold as in the case of the coincidence of the rotatory axis with the plane of the mirror. The component of the rotation in the direction V'' does not come into consideration at all as it causes no displacement of the scale image, but turns the mirror in its plane.

If, therefore, the perpendicular distance of S from the mirror $= OM$ then:

$$\varphi \sin c = \frac{n}{2\,OM}$$

But now:

$$\sphericalangle SOM = b - c;$$

and

$$\sphericalangle SOH = \frac{\pi}{2} - (2c - b)$$

and:

$$OM = OS \cos(b - c)$$
$$d = OS \sin(2c - b)$$

so that:

$$\varphi = \frac{n}{2d} \frac{\sin(2c - b)}{\sin c \cos(b - c)}$$

or by placing:

$$\sphericalangle SON = b - c = \alpha;$$
$$\sphericalangle NOH = \frac{\pi}{2} - c = \beta$$

then:

$$\sphericalangle SOH = \frac{\pi}{2} - (2c - b) = \alpha + \beta$$

therefore further:

$$\varphi = \frac{n}{2d} \frac{\cos(\alpha + \beta)}{\cos\alpha \cos\beta}$$

As the angles α and β are supposed to be small, we can, in the calculation of correction, make use of the first terms of the series developed for the cosines and the sines of α and β; then:

$$\frac{\cos(\alpha + \beta)}{\cos\alpha \cos\beta} = 1 - \frac{\sin\alpha \sin\beta}{\cos\alpha \cos\beta} = 1 - \alpha\beta$$

Consequently:

$$\varphi = \frac{n}{2d}(1 - \alpha\beta) = \frac{n}{2d(1 + \alpha\beta)}$$

Now however:

$$\alpha = \frac{HN}{d} \text{ and } \beta = \frac{FN}{d}$$

therefore:

$$d(1 + \alpha\beta) = d + \frac{HN \cdot FN}{d} \quad \ldots (9.$$

composante de cette rotation qui appartient à V' est $\varphi \sin c$. Pour cette dernière rotation, tout se comporte comme dans le cas de la coïncidence de l'axe de rotation et du plan du miroir. On ne tient pas compte de la composante de la rotation qui appartient à V'' car elle ne produit aucun déplacement de l'image de l'échelle, mais au contraire le miroir n' exécute par elle une rotation que dans son propre plan.

Soit maintenant OM la distance perpendiculaire entre S et le miroir, on a:

$$\varphi \sin c = \frac{n}{2\,OM}$$

Mais puisqu'on a:

$$\sphericalangle SOM = b - c$$

et

$$\sphericalangle SOH = \frac{\pi}{2} - (2c - b)$$

de plus:

$$OM = OS \cos(b - c)$$
$$d = OS \sin(2c - b)$$

on a, alors:

$$\varphi = \frac{n}{2d} \frac{\sin(2c - b)}{\sin c \cos(b - c)}$$

ou, quand on remplace:

$$\sphericalangle SON = b - c = \alpha$$
$$\sphericalangle NOH = \frac{\pi}{2} - c = \beta$$

on a:

$$\sphericalangle SOH = \frac{\pi}{2} - (2c - b) = \alpha + \beta$$

d'où l'on tire:

$$\varphi = \frac{n}{2d} \frac{\cos(\alpha + \beta)}{\cos\alpha \cos\beta}$$

Comme les angles α et β sont supposés petits, on peut, dans le calcul d'une grandeur de correction, ne prendre que les premiers termes du développement progressif pour les cosinus et les sinus de α et de β. On a alors:

$$\frac{\cos(\alpha + \beta)}{\cos\alpha \cos\beta} = 1 - \frac{\sin\alpha \sin\beta}{\cos\alpha \cos\beta} = 1 - \alpha\beta$$

De cette manière, il vient:

$$\varphi = \frac{n}{2d}(1 - \alpha\beta) = \frac{n}{2d(1 + \alpha\beta)}$$

Mais puisque:

$$\alpha = \frac{HN}{d} \text{ et } \beta = \frac{FN}{d}$$

donc:

$$d(1 + \alpha\beta) = d + \frac{HN \cdot FN}{d} \quad \ldots (9.$$

Zur gemessenen Scalendistanz d ist also noch $\frac{HN \times FN}{d}$ hinzuzufügen, und zwar sind die Strecken HN und FN von der Horizontalebene OH nach aufwärts positiv und nach abwärts negativ zu zählen.

5. Wegen Excentricität des Spiegels.

Ist der Spiegel weiter von der Drehaxe entfernt angebracht, wie es besonders bei älteren magnetischen Apparaten der Fall ist, wo derselbe am Ende eines langen Magnetenstabes befestigt ist, so ist bei grösseren Ablenkungen folgende Correction anzubringen.

Ist Fig. 5. $OA = a$ die Entfernung des Spiegels von der Drehaxe, $AN = d$ die Scalendistanz, so wird bei einer Ablenkung φ der Strahl statt in A, in B reflectirt. Die Distanz d ist daher um $AB = x$ verkleinert.

To the measured distance of the scale d, must be added $\frac{HN \times FN}{d}$ whereby the distances HN and FN from the horizontal plane OH upwards are considered positive and from this plane downwards negative.

5. For Eccentricity of the Mirror.

If the mirror is placed at a considerable distance from the rotatory axis, as is usual with the old magnetic apparatus, where it is fixed at the end of a long magnet, then the following correction is to be made in case of considerable rotations.

Let Fig. 5 $OA = a$ be the distance of the mirror from the rotatory axis, $AN = d$ the distance of the scale; then, in case of deflection φ, the ray instead of being reflected at A will be reflected at B. The distance d is therefore lessened by $AB = x$.

Il faut donc ajouter $\frac{HN \times FN}{d}$ à la mesure de la distance d de l'échelle; les lignes HN et FN doivent être prises positivement dans le haut du plan et négativement dans le bas.

5. A propos de lexcentricité du miroir.

Lorsque le miroir est plus éloigné de l'axe de rotation, comme cela arrive principalement dans les anciens appareils magnétiques où il est fixé à l'extrémité d'un long barreau magnétique, il est nécessaire, dans les grandes déviations, d'introduire les corrections suivantes:

Dans la figure 5, $OA = a$ est l'éloignement entre le centre de rotation et le miroir; $AN = d$, la distance de l'échelle; le rayon, à cause de la déviation, sera réfléchi en B au lieu de l'être en A. En considération de cela, la distance d est diminuée de $AB = x$.

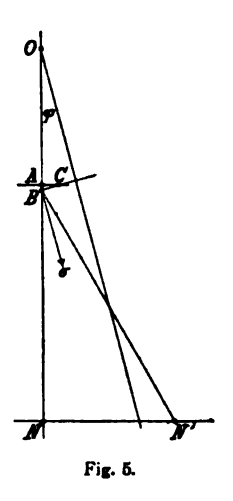


Fig. 5.

Aus der Figur folgt:

$$AC = a\, tg \frac{\varphi}{2}$$

$$AB = AC\, tg\, \varphi$$

also:

$$x = a\, tg\, \varphi\, tg \frac{\varphi}{2}$$

Nun ist genähert:

$$tg\, \varphi = \frac{n}{2d}\left(1 - \frac{n^2}{4d^2}\right)$$

$$tg \frac{\varphi}{2} = \frac{n}{4d}\left(1 - \frac{5n^2}{16d^2}\right)$$

daher:

$$x = \frac{an^2}{8d^2}\left(1 - \frac{9n^2}{16d^2}\right) \quad \ldots \quad (10.$$

Hier ist also die Correction, um welche die Scalendistanz zu verkleinern ist, von der Grösse des Ausschlages abhängig.

According to the figure:

$$AC = a\, tg \frac{\varphi}{2}$$

$$AB = AC\, tg\, \varphi$$

therefore:

$$x = a\, tg\, \varphi\, tg \frac{\varphi}{2}$$

Now approximately:

$$tg\, \varphi = \frac{n}{2d}\left(1 - \frac{n^2}{4d^2}\right)$$

$$tg \frac{\varphi}{2} = \frac{n}{4d}\left(1 - \frac{5n^2}{16d^2}\right)$$

hence:

$$x = \frac{an^2}{8d^2}\left(1 - \frac{9n^2}{16d^2}\right) \quad \ldots \quad (10.$$

Therefore the correction, by which the distance of the scale is to be lessened, is dependent on the value of the reading.

La figure elle-même donne

$$AC = a\, tg \frac{\varphi}{2}$$

$$AB = AC\, tg\, \varphi$$

donc:

$$x = a\, tg\, \varphi\, tg \frac{\varphi}{2}$$

Les formules approchées sont:

$$tg\, \varphi = \frac{n}{2d}\left(1 - \frac{n^2}{4d^2}\right)$$

$$tg \frac{\varphi}{2} = \frac{n}{4d}\left(1 - \frac{5n^2}{16d^2}\right)$$

d'où:

$$x = \frac{an^2}{8d^2}\left(1 - \frac{9n^2}{16d^2}\right)^2 \quad \ldots \quad (10.$$

Ici, la correction dont la distance de l'échelle doit être diminuée est donc dépendante de la grandeur de la déviation.

Bei etwas grösserem d und mässigem a, genügt das erste Glied, da diese Correction überhaupt weniger in's Gewicht fällt.

6. Wegen Spiegelkrümmung.

Dünne Spiegel werden oft durch die Fassung oder das Aufkitten gekrümmt; manchesmal kommen auch überhaupt gekrümmte Spiegel zur Verwendung. In diesen Fällen, und zwar nur wenn der Spiegel excentrisch ist, wird auch eine Correction nothwendig.

If the value of d is large and that of a moderate, the first term suffices, as this correction itself is in general small.

6. For Curvature of the Mirror.

Thin mirrors are often bent in the setting or cementing, in fact, from one cause or another curved mirrors are frequently used. In such cases, however, only, if the mirror is eccentric, is a correction necessary.

Lorsque d est un peu plus grand et a de moyenne grandeur, le premier terme suffit, car cette correction n'est pas de la plus haute importance.

6. Apropos de la courbure du miroir.

Les miroirs minces sont souvent courbés par le montage et le lutage; maintes fois, aussi, on se sert de miroirs courbés exprès. En pareils cas, une correction dévient nécessaire, mais seulement lorsque le miroir est excentrique.

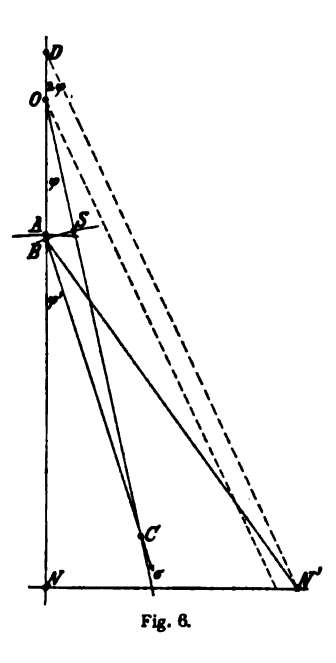


Fig. 6.

In Fig. 6 bedeutet $OA = a$, die Entfernung des Spiegels von der Axe, $CS = r$ den Krümmungsradius des Spiegels, welcher bei Concavspiegeln positiv und bei Convexspiegeln negativ zu nehmen ist, und $AN = d$ die Scalendistanz. Die Visirlinie des Fernrohres trifft bei einer Ablenkung des Spiegels um den Winkel φ denselben im Punkte B. Die Spiegelnormale σ in diesem Punkte geht durch C, den Krümmungsmittelpunkt des Spiegels und der reflectirte Strahl ist dann BN'. Zieht man durch N' eine Gerade, welche mit NO den Winkel 2φ bildet, so ist $AD = x$ die Grösse, welche zu d hinzuzufügen ist, damit $\frac{n}{d+x} = tg\, 2\varphi$ ist.

Aus der Figur folgt: $(d+x)\, tg\, 2\varphi = d\, tg\, 2\varphi'$.

Eigentlich sollte auf der rechten Seite statt d, $d - AB$ stehen, jedoch kann dies bei der Berechnung der Correctionsgrösse x vernachlässigt werden und im Falle AB eine erhebliche Grösse erreichen sollte, nach Artikel 5 berechnet werden.

In Fig. 6 $OA = a$ denotes the distance of the mirror from the axis, $CS = r$, the radius of curvature of the mirror, which in concave mirrors is to be taken positive and in convex mirrors negative — and $AN = d$ the distance of the scale. After the rotation of the mirror through the angle φ, the line of vision of the telescope will reach the mirror at the point B. The normal σ to the mirror at this point goes through C the centre of curvature of the mirror and the reflected ray is then BN'. By drawing a line through N' which forms with NO the angle 2φ we get $AD = x$, the amount which must be added to d in order that: $\frac{n}{d+x} = tg\, 2\varphi$.

It follows from the figure that: $(d+x)\, tg\, 2\varphi = d\, tg\, 2\varphi'$.

Properly speaking instead of d, $d - AB$ should stand on the right hand side of the equation; this may however be neglected in calculating the correction x, and if AB attain considerable dimensions, it may be calculated by Art. 5.

Dans la figure 6, $OA = a$ représente la distance entre le miroir et l'axe; $GS = r$, le rayon de courbure du miroir qui doit être pris positivement dans les miroirs concaves et négativement dans les miroirs convexes, et $AN = d$ la distance de l'échelle.

En supposant une déviation du miroir exprimée par l'angle φ, la ligne de visée de la lunette arrive en B sur le miroir. La normale σ du miroir en ce point passe par G, centre de courbure du miroir, et le rayon réfléchi est alors BN'. Si par N' on mène une droite qui forme avec NO l'angle 2φ, $AD = x$ est la grandeur qu'on doit ajouter à d afin de rendre $\frac{n}{d+x} = tg\, 2\varphi$.

On a d'après la figure: $(d+x)\, tg\, 2\varphi = d\, tg\, 2\varphi'$.

A dire vrai, au lieu de d il devrait y avoir $d - AB$ dans la deuxième partie de l'égalité; toutefois, on peut négliger cela dans le calcul d'une grandeur x de correction et le calculer d'après le paragraphe 5, dans le cas où AB doit atteindre une grandeur importante:

Es ist daher:

$$x = d\left(\frac{tg\,2\varphi'}{tg\,2\varphi} - 1\right)$$

Genähert findet sich auch:

$$r\,tg\,\varphi' = (a + r)\,tg\,\varphi$$

also:

$$\frac{tg\,\varphi'}{tg\,\varphi} = \frac{a}{r} + 1$$

bei mässiger Grösse von φ und φ' wird daher auch sein:

$$\frac{tg\,2\varphi'}{tg\,2\varphi} = \frac{a}{r} + 1$$

so dass schliesslich:

$$x = d\frac{a}{r} \quad \ldots\ldots\ldots (11.$$

Will man noch die Grösse AB in Rechnung ziehen, so ist, wenn gesetzt wird: $AB = \xi$

$$(d + x)\,tg\,2\varphi = (d - \xi)\,tg\,2\varphi'$$

daraus folgt:

$$x = d\frac{a}{r} - \xi\left(1 + \frac{a}{r}\right)$$

Für ξ ist der Werth nach dem vorhergehenden Art. 5 zu rechnen und findet sich dann, wenn man $\frac{a}{r}$ und $\frac{9\,n^2}{16\,d^2}$ gegen die Einheit vernachlässigt:

$$x = d\frac{a}{r}\left(1 - \frac{r\,n^2}{8\,d^2}\right) \quad \ldots\ldots (12.$$

Bestimmung des Krümmungshalbmessers r.

Das Fernrohr wird auf das Bild der Scala im Spiegel ohne Parallelaxe eingestellt. Der Abstand der Scala vom Spiegel sei hierbei $= s$, derjenige des Fernrohrobjectives vom Spiegel $= l$. Nun richtet man das ungeänderte Fernrohr auf einen horizontalen Maassstab in ungefähr doppeltem Abstande und regulirt den letzteren, bis die Parallelaxe verschwindet. Er sei vom Objectiv gerechnet $= L$. Dann ist offenbar:

$$\frac{2}{r} = \frac{1}{s} - \frac{1}{L - l}$$

woraus folgt:

$$r = 2s\frac{L - l}{L - l - s}$$

7. Wegen Schiefe der Scala.

Misst man mit einem feinen Drahte oder Messbande von der Drehaxe O aus, die Entfernungen s und s' (Fig. 7) der beiden Enden der Scala und findet, dass

Therefore:

$$x = d\left(\frac{tg\,2\varphi'}{tg\,2\varphi} - 1\right)$$

Approximately also it may be found that:

$$r\,tg\,\varphi' = (a + r)\,tg\,\varphi$$

Therefore:

$$\frac{tg\,\varphi'}{tg\,\varphi} = \frac{a}{r} + 1$$

and with moderate dimensions of φ and φ':

$$\frac{tg\,2\varphi'}{tg\,2\varphi} = \frac{a}{r} + 1$$

so that finally:

$$x = d\frac{a}{r} \quad \ldots\ldots\ldots (11.$$

If the amount AB is drawn into the calculation putting $AB = \xi$, we get:

$$(d + x)\,tg\,2\varphi = (d - \xi)\,tg\,2\varphi'$$

consequently it follows:

$$x = d\frac{a}{r} - \xi\left(1 + \frac{a}{r}\right)$$

The value for ξ must be calculated by the above given Art. 5. If $\frac{a}{r}$ and $\frac{9\,n^2}{16\,d^2}$ are neglected at being small in comparison with unity there results:

$$x = d\frac{a}{r}\left(1 - \frac{r\,n^2}{8\,d^2}\right) \quad \ldots\ldots (12.$$

Determination of the Radius of Curvature r.

The telescope is fixed on the reflection of the scale in the mirror without parallax. Let the distance of the scale from the mirror in this case be $= s$; that of the object glass of the telescope from the mirror $= l$. The unaltered telescope is now directed towards a horizontal scale at about double the distance which is varied till the parallax vanishes. Let this distance measured from the objective be L; then clearly:

$$\frac{2}{r} = \frac{1}{s} - \frac{1}{L - l}$$

consequently:

$$r = 2s\frac{L - l}{L - l - s}$$

7. For Obliquity of the Scale.

If the distances s and s' (Fig. 7) of the two ends of the scale from the rotatory axis O, be measured with a fine wire or tape measure, and it is found that they

On a de là:

$$x = d\left(\frac{tg\,2\varphi'}{tg\,2\varphi} - 1\right)$$

La formule approchée est aussi:

$$r\,tg\,\varphi' = (a + r)\,tg\,\varphi$$

donc:

$$\frac{tg\,\varphi'}{tg\,\varphi} = \frac{a}{r} + 1$$

On aura également de là, dans le cas d'une grandeur moyenne de φ et de φ':

$$\frac{tg\,2\varphi'}{tg\,2\varphi} = \frac{a}{r} + 1$$

et, finalement:

$$x = d\frac{a}{r} \quad \ldots\ldots\ldots (11.$$

Si l'on veut encore introduire AB dans le calcul, on a, lorsqu'on a remplacé $AB = \xi$:

$$(d + x)\,tg\,2\varphi = (d - \xi)\,tg\,2\varphi'$$

d'où il suit:

$$x = d\frac{a}{r} - \xi\left(1 + \frac{a}{r}\right)$$

On calcule la valeur de ξ d'après le paragraphe précédent (No. 5) et quand on néglige $\frac{a}{r}$ et $\frac{9\,n^2}{16\,d^2}$ par rapport à l'unité, on trouve:

$$x = d\frac{a}{r}\left(1 - \frac{r\,n^2}{8\,d^2}\right) \quad \ldots\ldots (12.$$

Détermination du rayon de courbure r.

La lunette est réglée sans parallaxe sur l'image de l'échelle dans le miroir. Soit ici s la distance de l'échelle au miroir et l celle entre l'objectif et le miroir. On dirige alors la lunette, sans modifier son point, vers une échelle horizontale située à une distance à peu près double qu'on règle jusqu'à ce que la parallaxe disparaisse.

Soit L la distance mesurée de l'objectif; il est alors évident que:

$$\frac{2}{r} = \frac{1}{s} - \frac{1}{L - l}$$

d'où il suit:

$$r = 2s\frac{L - l}{L - l - s}$$

7. A propos de l'obliquité de l'échelle.

Si avec un fil fin ou avec une mesure en ruban on mesure depuis l'axe de rotation O les distances s et s' jusqu'aux deux extrémités de l'échelle (fig. 7) et si l'on

diese nicht gleich sind, so steht die Scala nicht senkrecht auf der Visirlinie des Fernrohres.

Den Winkel α, um welchen die Scala dann von der senkrechten Lage abweicht, erhält man aus dieser Messung auf folgende Weise:

Ist $SS' = 2l$, so ist:

$$s^2 = d^2 + l^2 + 2dl \sin\alpha$$
$$s'^2 = d^2 + l^2 - 2dl \sin\alpha$$

daher:

$$\sin\alpha = \frac{s^2 - s'^2}{4dl} \quad \ldots\ldots (13.$$

are not equal, the scale is not perpendicular to the line of vision of the telescope. The angle α at which the scale then departs from the perpendicular is found from this measurement in the following manner.

Let $SS' = 2l$ then it follows from the figure that:

$$s^2 = d^2 + l^2 + 2dl \sin\alpha$$
$$s'^2 = d^2 + l^2 - 2dl \sin\alpha$$

therefore:

$$\sin\alpha = \frac{s^2 - s'^2}{4dl} \quad \ldots\ldots (13.$$

trouve que ces deux distances ne sont pas égales, cela signifie que l'échelle n'est pas perpendiculaire à la ligne de visée de la lunette.

On obtient d'après cette mesure, et de la façon suivante, l'angle α dont l'échelle s'écarte de la perpendiculaire.

Soit $SS' = 2l$, ou a:

$$s^2 = d^2 + l^2 + 2dl \sin\alpha$$
$$s'^2 = d^2 + l^2 - 2dl \sin\alpha$$

d'où:

$$\sin\alpha = \frac{s^2 - s'^2}{4dl} \quad \ldots\ldots (13.$$

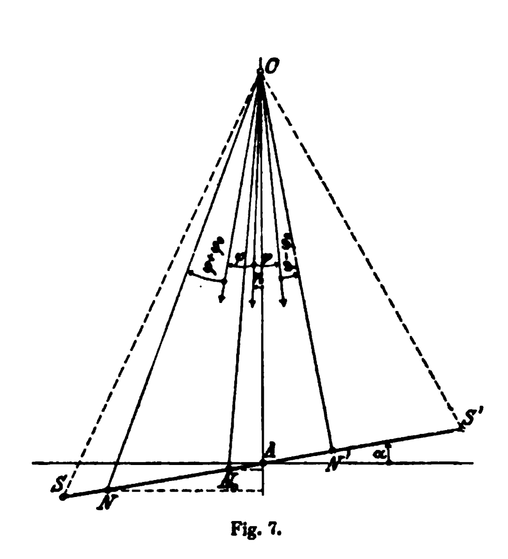


Fig. 7.

Um mit dem Vorzeichen der Scalenausschläge n keinen Irrtum zu begehen, soll festgelegt werden, dass wenn die Bezifferung der Scala von S nach S' fortschreitet und A, N_0, N und N' die Zahlen sind, welche an der Theilung unmittelbar abgelesen werden, die zugehörigen Ausschläge n stets zeichenrichtig ausgedrückt werden durch $N_0 - A = n_0$; $N - A = n$; $N' - A = n'$.

Dabei ist A die Ziffer, welche ober dem Fernrohrobjective steht, also die Mitte der Scala, und N_0, N und N' sind die Ablesungen der Ruhelage und zweier Ausschläge. Es soll nämlich vorausgesetzt werden, dass die Spiegelnormale nicht mit der Visirlinie zusammenfalle, sondern mit derselben einen Winkel φ_0 einschliesse.

Wird dann der Spiegel um einen Winkel φ abgelenkt, so ist:

$$tg\, 2(\varphi + \varphi_0) = \frac{n \cos\alpha}{d + n \sin\alpha}$$

und

$$tg\, 2\varphi_0 = \frac{n_0 \cos\alpha}{d + n_0 \sin\alpha}$$

In order to commit no error in the signs of the scale readings n, let it be established, that, if the numbering of the scale rise from S to S', and A, N_0, N and N' are the numbers directly read off from it then the corresponding readings n, will always have the right signs if expresses by $N_0 - A = n_0$, $N - A = n$, $N' - A = n'$. In this case A is the number above the object glass of the telescope, thus the middle of the scale, and N_0, N and N' are the reading of the position of rest and those after two deflections. It is of course presupposed that the normal to the mirror does not coincide with the line of vision, but that it forms with it an angle φ_0.

If then the mirror be turned through an angle φ, then

$$tg\, 2(\varphi + \varphi_0) = \frac{n \cos\alpha}{d + n \sin\alpha}$$

and

$$tg\, 2\varphi_0 = \frac{n_0 \cos\alpha}{d + n_0 \sin\alpha}$$

Afin de ne pas commettre d'erreur avec le signe de la lecture de l'échelle n, il faut admettre que, si le numérotage de l'échelle avance de S vers S' et si A, N_0, N, et N' sont les nombres qui ont été lus directement sur les divisions, les déviations correspondantes n seront constamment exprimées avec leurs signes propres par $N_0 - A = n_0$; $N - A = n$; $N' - A = n'$.

En outre, A est le chiffre qui se trouve au-dessus de l'objectif de la lunette, c'est à dire qu'il est le milieu de l'echelle, et N_0, N et N' sont les lectures de l'état de repos et de deux déviations. Il faut supposer, en ce cas, que la normale du miroir ne coïncide pas avec la ligne de visée, mais qu'elle forme au contraire avec celle-ci l'angle φ_0.

Le miroir ayant alors tourné d'un angle φ, on a:

$$tg\, 2(\varphi + \varphi_0) = \frac{n \cos\alpha}{d + n \sin\alpha}$$

et

$$tg\, 2\varphi_0 = \frac{n_0 \cos\alpha}{d + n_0 \sin\alpha}$$

daraus folgt:

$$tg\,2\varphi = \frac{n - n_0}{\frac{d}{\cos\alpha} + (n + n_0)\,tg\,\alpha + \frac{n n_0}{d \cos\alpha}}$$

oder für kleine α, wenn man setzt:

$$tg\,\alpha = \alpha \text{ und } \frac{1}{\cos\alpha} = 1 + \frac{\alpha^2}{2}$$

It follows therefore that:

$$tg\,2\varphi = \frac{n - n_0}{\frac{d}{\cos\alpha} + (n + n_0)\,tg\,\alpha + \frac{n n_0}{d \cos\alpha}}$$

or for small α by placing:

$$tg\,\alpha = \alpha \text{ and } \frac{1}{\cos\alpha} = 1 + \frac{\alpha^2}{2}$$

d'où il suit:

$$tg\,2\varphi = \frac{n - n_0}{\frac{d}{\cos\alpha} + (n + n_0)\,tg\,\alpha + \frac{n n_0}{d \cos\alpha}}$$

ou bien, quand α est petit et quand on remplace:

$$tg\,\alpha = \alpha \text{ et } \frac{1}{\cos\alpha} = 1 + \frac{\alpha^2}{2}$$

$$tg\,2\alpha = \frac{n - n_0}{d + (n + n_0)\,\alpha + \frac{n n_0}{d} + d\,\frac{\alpha^2}{2} + \frac{n n_0}{d}\,\frac{\alpha^2}{2}}$$

Als Correction an d ist daher hinzuzufügen:

$$x = \frac{n n_0}{d} + (n + n_0)\,\alpha + \left(d + \frac{n n_0}{d}\right)\frac{\alpha^2}{2} \quad (14.$$

Ist man im Stande einen gleich grossen Ausschlag wie φ, aber nach der entgegengesetzten Seite, hervorzubringen (wie dies bei magnetischen und galvanischen Messungen meist der Fall ist), so sei die dazu abgelesene Zahl $= N'$; also $N' - A = n'$ die Anzahl der Theilstriche, welche je nach der Grösse des Ausschlages auch negativ ist.

Dann ist in gleicher Weise:

As correction for d must be added:

$$x = \frac{n n_0}{d} + (n + n_0)\,\alpha + \left(d + \frac{n n_0}{d}\right)\frac{\alpha^2}{2} \quad (14.$$

Suppose it is possible to obtain a deflection equal to φ, but in the opposite direction (as is mostly the case in magnetic and galvanic measurements) and let this new reading be $= N'$. Then $N' - A = n'$, the number of the scale divisions, which according to the amount of the deflection may also be negative. Then similarly:

Par conséquent, il faut, comme correction, ajouter à d:

$$x = \frac{n n_0}{d} + (n + n_0)\,\alpha + \left(d + \frac{n n_0}{d}\right)\frac{\alpha^2}{2} \quad (14.$$

Si on est en état de produire une déviation d'une grandeur égale à φ, mais du côté opposé (comme cela arrive principalement dans les mesures magnétiques et galvaniques), soit N' le nombre lu dans ce cas et $N' - A = n'$ la quantité des traits de division, quantité qui est aussi négative d'après la grandeur d de la déviation.

On a alors, de la même manière:

$$tg\,2\varphi = \frac{n_0 - n'}{d + \frac{n' n_0}{d} + (n + n_0)\,\alpha + \left(d + \frac{n' n_0}{d}\right)\frac{\alpha^2}{2}}$$

Aus diesen beiden Werthen für $tg\,2\varphi$ findet man:

From these two values for $tg\,2\varphi$ is found:

D'après ces deux valeurs pour $tg\,2\varphi$ on trouve:

$$\frac{n - n'}{2} = \frac{N - N'}{2} = d\,tg\,2\varphi\left\{1 + \frac{n + n'}{2}\left(\frac{n_0}{d^2} + \frac{\alpha}{d} + \frac{n_0\,\alpha^2}{2 d^2}\right) + \frac{n_0}{d}\,\alpha + \frac{\alpha^2}{2}\right\}$$

Ist $\frac{n_0}{d}$ von demselben Kleinheitsgrade wie α, so hat man bis inclusive Grössen von der zweiten Ordnung von α:

If $\frac{n_0}{d}$ is small as well as α, and we reject terms of a higher degree than the second, we get:

Lorsque $\frac{n_0}{d}$ est de la même petitesse que α, on a, jusqu'à des grandeurs incluses du second ordre de α:

$$\frac{n - n'}{2} = d\,tg\,2\varphi\left\{1 + \frac{n + n'}{2}\left(\frac{n_0}{d^2} + \frac{\alpha}{d}\right) + \frac{n_0\,\alpha}{d} + \frac{\alpha^2}{2}\right\} \quad (15.$$

Selbst wenn die Scala nicht von der senkrechten Lage abweicht, also $\alpha = o$ zu setzen ist, folgt:

$$\frac{n - n'}{2} = d\,tg\,2\varphi\left\{1 + \frac{n + n'}{2}\,\frac{n_0}{d^2}\right\}$$

Verfährt man also so wie gebräuchlich, dass man aus einem rechts- und linksseitigen gleichgrossen Winkelausschlage blos das arithmetische Mittel der beiderseitigen Scalentheile nimmt, so begeht man einen Fehler, der von der Grösse der Abweichung der Ruhelage vom mittelsten Theilstriche und vom gemessenen Ausschlage abhängt; für $n = -n'$ verschwindet derselbe.

Even when the scale does not depart from the perpendicular position thus, when $\alpha = o$, it follows that:

$$\frac{n - n'}{2} = d\,tg\,2\varphi\left\{1 + \frac{n + n'}{2}\,\frac{n_0}{d^2}\right\}$$

By taking, as is the common practice, only the arithmetical mean of equal deflections to the right and to the left, an error is committed the amount of which depends on the greatness of the deviation of the position of rest from the middle point of the scale and further on the amount of the deflection; for $n = -n'$ it disappears.

Most of the above corrections are, if the distance of the scale be considerable,

Même lorsque l'échelle ne s'écarte pas de la position perpendiculaire, c'est à dire quand il faut remplacer $\alpha = o$, il suit:

$$\frac{n - n'}{2} = d\,tg\,2\varphi\left\{1 + \frac{n + n'}{2}\,\frac{n_0}{d^2}\right\}$$

Si l'on agit alors comme d'habitude, c'est à dire en prenant simplement la moyenne arithmétique des deux parties de chaque côté de l'échelle d'après les déviations de l'angle d'égale grandeur à droite et à gauche, on commet ainsi une erreur qui dépend de la grandeur de l'écartement entre l'état de repos et le point médian de division, ainsi que de la déviation mesurée: cette erreur disparaît lorsque $n = -n'$.

Die meisten der hier angeführten Correctionen sind bei grösserer Scalendistanz und halbwegs guter Orientirung ziemlich klein und daher bei Berechnung von Proportionalgrössen fast stets zu vernachlässigen. Man wird daher immer trachten auf die Aufstellung lieber mehr Sorgfalt zu verwenden und sich so meist die Correctionen ersparen.

and ordinary care be taken in the adjustment, quite small, and may therefore almost always be disregarded in the calculations of proportional quantities. It is well therefore to devote more time and care to the adjustment, and thereby avoid as far as possible, the corrections.

La plupart des corrections citées ici sont assez peu importantes dans le cas d'une distance plus grande de l'échelle et d'une disposition passablement bonne; on peut donc presque toujours les négliger dans le calcul des grandeurs proportionelles.

Par conséquent, on s'efforcera plutôt d'apporter toujours plus de soin à la disposition de l'appareil et de s'éviter ainsi la plupart du temps les corrections.

IV. Einrichtung und Gebrauch der Tabellen.

Die hier gerechneten Tabellen sind in 80 Blättern enthalten und zwar finden sich auf je 20 derselben die Reductionen auf den Winkel, die Tangente, den Sinus des halben Winkels und die absoluten Werthe des Winkels in Graden.

Oberhalb jeder Columne stehen die Scalendistanzen d und links nach abwärts sind die Scalenausschläge n von zehn zu zehn Theilstrichen enthalten.

Die erste und letzte Columne eines jeden Blattes ist direct nach Formel (1. mit Berücksichtigung der dritten Decimale berechnet, während die zwischenliegenden Werthe geradlinig interpolirt sind. Um die Genauigkeit gleichmässiger zu machen, sind bei Scalendistanzen von 4 bis 2 Metern die Werthe von 20 zu 20 Centimetern berechnet, von 2 bis 1 Meter aber von 10 zu 10 Centimetern.

Unter den Scalenausschlägen sind immer die im Vorausgehenden als n bezeichneten einseitigen Ablenkungen gemeint. Die in den Reductionstabellen enthaltenen Zahlen, welche mit ν bezeichnet werden sollen, sind dann jene Grössen, welche von n abzuziehen sind, um dieses auf die jedweilige proportionale Grösse zu reduciren. Um aus dieser Grösse den absoluten Werth zu erhalten, hat man noch durch die doppelte und beim Sinus des halben Winkels die vierfache Scalendistanz zu dividiren.

1.) Reduction auf den Winkel φ (Tab. 1—20).

Ist ein Scalenausschlag n, bei der Scalendistanz d, auf eine dem Winkel (im Bogenmaasse) proportionale Grösse zu reduciren, so ist von demselben die entsprechende Zahl ν aus den Columnen abzuziehen.

Dann ist:

$$2d\varphi = n - \nu \quad \ldots\ldots (16.$$

IV. Arrangement and Use of the Tables.

The following tables cover 80 leaves, each twenty comprising a separate subject, namely: the reduction to the angle, the tangent, the sine of the half angle, and the absolute value of the angle in degrees.

Over every column is placed the scale distance d and on the left on the scale readings are given for every ten divisions.

The first and last columns of every page are calculated directly by Formula (1. considering the third decimal, while the intermediate values are obtained by linear interpolation. In order to render their accuracy more uniform, in case of scale distances between 4 and 2 metres, the values are calculated for every 20 centimetres, between 2 and 1 metre, however, for every 10 centimetres.

By scale readings it is always the above considered deflections to one side, represented by n, which are meant. The numbers, denoted by ν, contained in the reduction tables, are then those quantities which must be deducted from n in order to reduce the latter to the proportional quantity in question. In order to obtain the absolute value from this quantity one must still divide by the double distance of the scale, and in case of the sine of the half-angle by the quadruple distance of the scale.

1.) Reduction to the angle φ. (Tab. 1—20.)

It a reading of the scale n, at a distance of the scale d is to be reduced to a quantity proportional to the angle (in circular measurement) then the corresponding number ν of the columns is to be deducted from it.

Then:

$$2d\varphi = n - \nu \quad \ldots\ldots (16.$$

IV. Disposition et usage des tables.

Les tables calculées ici occupent 80 pages dans 20 desquelles se trouve la réduction à l'angle; 20 autres contiennent la réduction à la tangente; la réduction au sinus du demi-angle occupe les 20 suivantes et la valeur absolue de l'angle en degrés les 20 dernières.

En tête de chaque colonne se trouvent les distances d de l'échelle, et à gauche en descendant sont contenues les déviations n de l'échelle de dix en dix traits de division.

La première et la dernière colonne de chaque page est calculée directement d'après la formule 1 jusqu'à la troisième décimale, tandis que les valeurs intermédiaires sont interpolées.

Afin de rendre l'exactitude à peu près égale partout, les valeurs sont calculées de 20 en 20 centimètres pour les distances de l'échelle entre 4 et 2 mètres; mais de 2 mètres à 1 mètre elles le sont de 10 en 10 centimètres.

Par la désignation des déviations de l'échelle on comprend toujours les déviations d'un côté désignées jusqu'ici par n.

Les nombres contenus dans les tables de réduction qui sont désignés par ν sont les grandeurs qu'il faut soustraire de n afin de réduire celui-ci à la grandeur proportionnelle respective.

Afin d'obtenir la valeur absolue d'après cette grandeur, il faut encore diviser par la double distance de l'échelle et, pour le sinus du demi-angle, par cette distance quadruplée.

1.) Réduction à l'angle φ. (Tables 1—20.)

Lorsqu'on veut réduire une déviation n de l'échelle, à la distance d de l'échelle, à une grandeur proportionnelle à l'angle φ (en mesure d'arc) il faut soustraire de cette déviation le nombre ν correspondant fourni par les colonnes.

On a alors:

$$2d\varphi = n - \nu \quad \ldots\ldots (16.$$

Will man den wirklichen Werth des Winkels φ im Bogenmaasse wissen, so ist:

$$\varphi = \frac{n-\nu}{2d} \quad \ldots\ldots (17.$$

Ist der Winkel im Gradmaasse gewünscht, so ist φ noch mit der Eingangs erwähnten Zahl 57°296··· zu multipliziren. Auf diese Art bekommt man hier auch den Winkel mit der grösstmöglichen Genauigkeit.

2.) Reduction auf die Tangente φ; (Tab. 23—42)

In gleicher Weise ist hier:

$$2d\, tg\, \varphi = n - \nu \ldots\ldots (18.$$

wo wieder ν jene Zahl aus den Columnen ist, welche der Distanz d und dem Ausschlage n entspricht.

Der absolute Werth ist:

$$tg\, \varphi = \frac{n-\nu}{2d} \quad \ldots\ldots (19.$$

3.) Reduction auf den Sinus $\frac{\varphi}{2}$; (Tab. 45—64).

Die dem Sin $\frac{\varphi}{2}$ proportionale Grösse ist wieder:

$$4d \sin \frac{\varphi}{2} = n - \nu \quad \ldots\ldots (20.$$

und:

$$\sin \frac{\varphi}{2} = \frac{n-\nu}{4d} \quad \ldots\ldots (21.$$

4.) Der Winkel φ in Graden; (Tab. 67—86).

Da bei obiger Berechnung ohnediess alle vorkommenden Winkel berechnet wurden, so schien es angezeigt auch diese in Tabellen direct wiederzugeben. Bei diesen ist jedoch die Genauigkeit der interpolirten Werthe natürlich eine viel geringere. Die Randcolumnen jeder Tafel sind direct gerechnet und daher bis auf 0·1 Minute genau. Die interpolirten Werthe jedoch, besonders in der Mitte der Tabellen, weichen bei kleinen Distanzen schon mehr ab. Will man daher einen Winkel genau haben, so hat man nach den Tabellen zur Reduction auf den Winkel zu rechnen.

Oft aber will man nur ungefähr z. B. bei Aufstellung der Scala wissen, welche Winkel man noch messen kann, oder, wenn überhaupt geringere Genauigkeit verlangt wird, dann gestatten diese Tabellen den Winkel unmittelbar in Graden abzulesen.

If it be required to obtain the actual value of the angle φ in circular measurement then:

$$\varphi = \frac{n-\nu}{2d} \ldots\ldots\ldots (17.$$

If the angle is required in degrees, φ is to be multiplied by the number mentioned at the beginning 57° 269···. In this manner the angle is obtained with the greatest possible accuracy.

2.) Reduction to the tangent φ. (Table 23—42.)

In the same way here:

$$2d\, tg\, \varphi = n - \nu \ldots\ldots (18.$$

where ν is again the number found in the columns answering to the distance d and the reading n.

The absolute value is:

$$tg\, \varphi = \frac{n-\nu}{2d} \ldots\ldots\ldots 19.)$$

3.) Reduction to the sine $\frac{\varphi}{2}$; (Table 45—64).

The quantity proportional to the sine $\frac{\varphi}{2}$ is:

$$4d \sin \frac{\varphi}{2} = n - \nu \quad \ldots\ldots (20.$$

and

$$\sin \frac{\varphi}{2} = \frac{n-\nu}{4d} \quad \ldots\ldots (21.$$

4.) The angle φ in degrees; (Table 67--86.)

Although in the above calculation all occurring angles have been calculated, yet it seemed proper to give them also directly in the table. — Here, however, the accuracy of the interpolated values is of course much smaller. The marginal columns on every table are calculated directly and are therefore exact to 0·1 minute. The interpolated values, however, more especially in the middle of the tables deviate in the case of small distance considerably more. In order therefore to obtain an angle accurately it is necessary to calculate by the tables for the reduction to the angle. It is often the case, however, that one wishes to know only approximately (for instance in the adjustment of the scale), what angles can be measured, and in general, whenever great accuracy is not desired, these tables enable the angle to be read off immediately in degrees.

Quand on veut counaître la valeur absolue de l'angle φ en mesure d'arc, on a:

$$\varphi = \frac{n-\nu}{2d} \quad \ldots\ldots (17.$$

Si on désire l'angle exprimé en degrés, on doit encore multiplier φ par le nombre 57° 260··· mentionné au début de cet ouvrage. De cette manière, on obtient la valeur de l'angle avec la plus grand précision possible.

2.) Réduction à la tangente φ. (Tables 23—42.)

De la même manière on a ici:

$$2d\, tg\, \varphi = n - \nu \ldots\ldots (18.$$

où ν est le nombre encore fourni par les colonnes et qui correspond à la distance d et à la déviation n de l'échelle.

La valeur absolue est:

$$tg\, \varphi = \frac{n-\nu}{2d} \quad \ldots\ldots (19.$$

3.) Réduction au sinus $\frac{\varphi}{2}$ (Tables 45—64.)

La grandeur proportionelle au sinus $\frac{\varphi}{2}$ est encore:

$$4d \sin \frac{\varphi}{2} = n - \nu \ldots\ldots (20.$$

et

$$\sin \frac{\varphi}{2} = \frac{n-\nu}{4d} \ldots\ldots (21.$$

4.) L'angle φ en degrés. (Tables 67—86)

Tous les angles pui peuvent se présenter ont été mentionnés dans les calculs précédents; il a donc paru convenable de les ajouter directement dans les tables.

Toutefois, l'exactitude des valeurs qui y ont été interpolées est naturellement beaucoup moindre.

Les colonnes marginales de chaque table sont calculées directement et, par suite, exactes à 0·1 minute près. Toutefois, les valeurs interpolées, principalement au milieu des tables, diffèrent déjà un peu pour les petites distances. Par conséquent, si l'on veut avoir la valeur exacte d'un angle, il faut calculer d'après les tables pour la réduction à l'angle.

Mais on ne désire souvent connaître qu'approximativement, par exemple dans la disposition de l'échelle, quel angle on peut encore mesurer.

Dans le cas où la précision n'a pas besoin d'être aussi grande, ces tables permettent de lire immédiatement l'angle en degrés.

Reduction auf den Winkel φ.

Reduction to the angle φ.

Réduction à l'angle φ.

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 1000—1100.

	1000	Diff.	1010	Diff.	1020	Diff.	1030	Diff.	1040	Diff.	1050	Diff.	1060	Diff.	1070	Diff.	1080	Diff.	1090	Diff.	1100	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	20
30	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	30
40	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	40
50	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·03	50
60	0·07	0·04	0·07	0·04	0·07	0·04	0·07	0·04	0·07	0·04	0·06	0·04	0·06	0·04	0·06	0·04	0·06	0·04	0·06	0·03	0·06	0·03	60
70	0·11	0·06	0·11	0·06	0·11	0·05	0·11	0·05	0·11	0·05	0·10	0·06	0·10	0·05	0·10	0·05	0·10	0·05	0·09	0·05	0·09	0·05	70
80	0·17	0·07	0·17	0·07	0·16	0·07	0·16	0·07	0·16	0·07	0·16	0·06	0·15	0·07	0·15	0·06	0·15	0·06	0·14	0·06	0·14	0·06	80
90	0·24	0·09	0·24	0·08	0·23	0·09	0·23	0·09	0·23	0·08	0·22	0·08	0·22	0·08	0·21	0·08	0·21	0·08	0·20	0·08	0·20	0·07	90
100	0·33	0·11	0·32	0·11	0·32	0·11	0·32	0·10	0·31	0·10	0·30	0·10	0·30	0·10	0·29	0·10	0·29′	0·09	0·28	0·09	0·27	0·09	**100**
110	0·44	0·13	0·43	0·13	0·43	0·12	0·42	0·12	0·41	0·12	0·40	0·12	0·40	0·11	0·39	0·11	0·38	0·11	0·37	0·11	0·36	0·11	110
120	0·57	0·15	0·56	0·15	0·55	0·15	0·54	0·14	0·53	0·14	0·52	0·14	0·51	0·13	0·50	0·13	0·49	0·13	0·48	0·13	0·47	0·13	120
130	0·72	0·18	0·71	0·17	0·70	0·17	0·68	0·17	0·67	0·17	0·66	0·16	0·64	0·16	0·63	0·16	0·62	0·15	0·61	0·15	0·60	0·14	130
140	0·90	0·21	0·88	0·21	0·87	0·20	0·85	0·20	0·84	0·19	0·82	0·19	0·80	0·19	0·79	0·18	0·77	0·18	0·76	0·17	0·74	0·17	140
150	1·11	0·23	1·09	0·23	1·07	0·22	1·05	0·22	1 03	0·22	1·01	0·22	0·99	0·21	0·97	0·21	0·95	0·20	0·93	0·20	0·91	0·20	150
160	1·34	0·27	1·32	0·26	1·29	0·26	1·27	0·25	1·25	0·25	1·23	0·24	1·20	0·24	1·18	0·24	1·15	0·23	1·13	0·23	1·11	0·22	160
170	1·61	0·30	1·58	0·29	1·55	0·29	1·52	0·29	1·50	0·28	1·47	0·27	1·44	0·27	1·42	0·26	1·38	0·26	1·36	0·25	1·33	0·25	170
180	1·91	0·33	1·87	0·33	1·84	0·32	1·81	0·31	1·78	0·31	1·74	0·31	1·71	0·30	1·68	0·29	1·64	0·29	1·61	0·28	1·58	0·28	180
190	2·24	0·36	2·20	0·36	2·16	0·36	2·12	0·35	2·09	0·34	2·05	0·34	2·01	0·33	1·97	0·32	1·93	0·32	1·89	0·31	1·86	0·30	190
200	2·60	0·40	2·56	0·40	2·52	0·39	2·47	0·38	2·43	0·38	2·39	0·37	2·34	0·36	2·29	0·36	2·25	0·35	2·20	0·35	2·16	0·34	**200**
210	3·00	0·45	2·96	0·43	2·91	0·42	2·85	0·42	2·81	0·41	2·76	0·40	2·70	0·40	2·65	0·39	2·60	0·38	2·55	0·38	2·50	0·36	210
220	3·45	0·48	3·39	0·47	3·33	0·47	3·27	0·46	3·22	0·45	3·16	0·44	3·10	0·43	3·04	0·43	2·98	0·42	2·93	0·41	2·86	0·41	220
230	3·93	0·53	3·86	0·52	3·80	0·51	3·73	0·50	3·67	0·49	3·60	0·48	3·53	0·47	3·47	0·46	3·40	0·45	3·34	0·44	3·27	0·43	230
240	4·46	0·56	4·38	0·56	4·31	0·54	4·23	0·54	4·16	0·52	4·08	0·52	4·00	0·52	3·93	0·50	3·85	0·50	3·78	0·48	3·70	0·48	240
250	5·02	0·61	4·94	0·60	4·85	0·59	4·77	0·58	4·68	0·57	4·60	0·56	4·52	0·55	4·43	0·54	4·35	0·53	4·26	0·52	4·18	0·51	250
260	5·63	0·66	5·54	0·64	5·44	0·63	5·35	0·62	5·25	0·61	5·16	0·60	5·07	0·59	4·97	0·58	4·88	0·56	4·78	0·56	4·69	0·54	260
270	6·29	0·70	6·18	0·69	6·07	0·68	5·97	0·67	5·86	0·66	5·76	0·65	5·66	0·63	5·55	0·62	5·44	0·61	5·34	0·60	5·23	0·59	270
280	6·99	0·75	6·87	0·74	6·75	0·73	6·64	0·71	6·52	0·70	6·41	0·69	6·29	0·68	6·17	0·67	6·05	0·66	5·94	0·64	5·82	0·63	280
290	7·74	0·80	7·61	0·79	7·48	0·78	7·35	0·76	7·22	0·75	7·10	0·73	6·97	0·72	6·84	0·71	6·71	0·70	6·58	0·68	6·45	0·67	290
300	8·54	0·85	8·40	0·84	8·26	0·82	8·11	0·82	7·97	0·80	7·83	0·78	7·69	0·77	7·55	0·76	7·41	0·74	7·26	0·73	7·12	0·72	**300**
310	9·39	0·91	9·24	0·89	9·08	0·88	8·93	0·86	8·77	0·85	8·61	0·83	8·46	0·81	8·31	0·80	8·15	0·78	7·99	0·77	7·84	0·75	310
320	10·30	0·95	10·13	0·94	9·96	0·92	9·79	0·91	9·62	0·89	9·44	0·89	9·27	0·87	9·11	0·85	8·93	0·84	8·76	0·83	8·59	0·81	320
330	11·25	1·01	11·07	0·99	10·88	0·98	10·70	0·96	10·51	0·95	10·33	0·93	10·14	0·91	9·96	0·89	9·77	0·88	9·59	0·86	9·40	0·85	330
340	12·26	1·07	12·06	1·05	11·86	1·03	11·66	1·01	11·46	0·99	11·26	0·98	11·05	0·97	10·85	0·95	10·65	0·93	10·45	0·91	10·25	0·89	340
350	13·33	1·11	13·11	1·10	12·89	1·08	12·67	1·07	12·45	1·05	12·24	1·02	12·02	1·01	11·80	0·99	11·58	0·98	11·36	0·96	11·14	0·94	350
360	14·44	1·18	1421	1·16	13·97	1·14	13·74	1·12	13·50	1·10	13·26	1·09	13·03	1·07	12·79	1·05	12·56	1·03	12·32	1·01	12·08	1·00	360
370	15·62	1·23	15·37	1·21	15·11	1·19	14·86	1·17	14·60	1·16	14·35	1·14	14·10	1·11	13·84	1·10	13·59	1·08	13·33	1·06	13·08	1·04	370
380	16·85	1·29	16·58	1·27	16·30	1·25	16·03	1·23	15·76	1·21	15·49	1·19	15·21	1·17	14·94	1·15	14·67	1·13	14·39	1·11	14·12	1·09	380
390	18·14	1·35	17·85	1·33	17·55	1·31	17·26	1·29	16·97	1·26	16·68	1·24	16·38	1·23	16·09	1·20	15·80	1·18	15·50	1·16	15·21	1·14	390
400	19·49	1·41	19·18	1·39	18·86	1·37	18·55	1·35	18·23	1·33	17·92	1·31	17·61	1·28	17·29	1·26	16·98	1·24	16·66	1·22	16·35	1·20	**400**
410	20·90	1·47	20·57	1·44	20·23	1·42	19·90	1·40	19·56	1·38	19·23	1·35	18·89	1·33	18·55	1·31	18·22	1·29	17·88	1·27	17·55	1·25	410
420	22·37	1·53	22·01	1·51	21·65	1·49	21·30	1·46	20·94	1·44	20·58	1·42	20·22	1·40	19·86	1·37	19·51	1·35	19·15	1·33	18·80	1·30	420
430	23·90	1·59	23·52	1·57	23·14	1·54	22·76	1·52	22·38	1·49	22·00	1·47	21·62	1·44	21·23	1·43	20·86	1·40	20·48	1·38	20·10	1·35	430
440	25·49	1·66	25·09	1·63	24·68	1·61	24·28	1·58	23·87	1·56	23·47	1·54	23·06	1·52	22·66	1·49	22·26	1·46	21·86	1·43	21·45	1·41	440
450	27·15	1·71	26·72	1·69	26·29	1·66	25·86	1·64	25·43	1·61	25·01	1·58	24·58	1·55	24·15	1·53	23·72	1·51	23·29	1·48	22·86	1·45	450
460	28·86	1·78	28·41	1·75	27·95	1·73	27·50	1·70	27·04	1·68	26·59	1·65	26·13	1·62	25·68	1·59	25·23	1·56	24·77	1·54	24·31	1·52	460
470	30·64	1·84	30·16	1·81	29·68	1·78	29·20	1·76	28·72	1·73	28·24	1·70	27·75	1·68	27·27	1·65	26·79	1·63	26·31	1·60	25·83	1·57	470
480	32·48	1·90	31·97	1·87	31·46	1·85	30·96	1·81	30·45	1·79	29·94	1·76	29·43	1·73	28·92	1·71	28·42	1·68	27·91	1·65	27·40	1·62	480
490	34·38	1·97	33·84	1·95	33·31	1·91	32·77	1·89	32·24	1·85	31·70	1·83	31·16	1·81	30·63	1·77	30·10	1·74	29·56	1·71	29·02	1·69	490
500	36·35		35·79		35·22		34·66		34·09		33·53		32·97		32·40		31·84		31·27		30·71		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

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	1100	Diff.	1110	Diff.	1120	Diff.	1130	Diff.	1140	Diff.	1150	Diff.	1160	Diff.	1170	Diff.	1180	Diff.	1190	Diff.	1200	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	20
30	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	30
40	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	40
50	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	50
60	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	60
70	0·09	0·05	0·09	0·05	0·09	0·05	0·09	0·04	0·09	0·04	0·08	0·05	0·08	0·05	0·08	0·05	0·08	0·04	0·08	0·04	0·08	0·04	70
80	0·14	0·06	0·14	0·06	0·14	0·05	0·13	0·06	0·13	0·06	0·13	0·06	0·13	0·05	0·13	0·05	0·12	0·05	0·12	0·05	0·12	0·05	80
90	0·20	0·07	0·20	0·07	0·19	0·07	0·19	0·07	0·19	0·07	0·19	0·07	0·18	0·07	0·18	0·06	0·17	0·06	0·17	0·06	0·17	0·06	90
100	0·27	0·09	0·27	0·09	0·26	0·09	0·26	0·09	0·26	0·08	0·26	0·08	0·25	0·08	0·24	0·08	0·23	0·08	0·23	0·08	0·23	0·07	**100**
110	0·36	0·11	0·36	0·10	0·35	0·11	0·35	0·10	0·34	0·10	0·34	0·10	0·33	0·10	0·32	0·10	0·31	0·10	0·31	0·09	0·30	0·09	110
120	0·47	0·13	0·46	0·13	0·46	0·12	0·45	0·12	0·44	0·12	0·44	0·11	0·43	0·11	0·42	0·11	0·41	0·11	0·40	0·11	0·39	0·11	120
130	0·60	0·14	0·59	0·14	0·58	0·14	0·57	0·14	0·56	0·14	0·55	0·14	0·54	0·13	0·53	0·13	0·52	0·13	0·51	0·13	0·50	0·13	130
140	0·74	0·17	0·73	0·17	0·72	0·17	0·71	0·16	0·70	0·16	0·69	0·16	0·67	0·16	0·66	0·15	0·65	0·15	0·64	0·15	0·63	0·14	140
150	0·91	0·20	0·90	0·19	0·89	0·19	0·87	0·19	0·86	0·18	0·85	0·18	0·83	0·18	0·81	0·17	0·80	0·17	0·79	0·17	0·77	0·17	150
160	1·11	0·22	1·09	0·22	1·08	0·21	1·06	0·21	1·04	0·21	1·03	0·20	1·01	0·20	0·98	0·20	0·97	0·19	0·96	0·19	0·94	0·18	160
170	1·33	0·25	1·31	0·25	1·29	0·24	1·27	0·24	1·25	0·23	1·23	0·23	1·21	0·22	1·18	0·23	1·16	0·22	1·15	0·21	1·12	0·21	170
180	1·58	0·28	1·56	0·27	1·53	0·27	1·51	0·26	1·48	0·26	1·46	0·25	1·43	0·25	1·41	0·25	1·38	0·25	1·36	0·24	1·33	0·24	180
190	1·86	0·30	1·83	0·30	1·80	0·29	1·77	0·29	1·74	0·28	1·71	0·28	1·68	0·28	1·66	0·26	1·63	0·26	1·60	0·25	1·57	0·25	190
200	2·16	0·34	2·13	0·33	2·09	0·33	2·06	0·32	2·02	0·32	1·99	0·31	1·96	0·30	1·92	0·30	1·89	0·29	1·85	0·29	1·82	0·28	**200**
210	2·50	0·36	2·46	0·36	2·42	0·36	2·38	0·35	2·34	0·34	2·30	0·34	2·26	0·34	2·22	0·33	2·18	0·33	2·14	0·32	2·10	0·32	210
220	2·86	0·41	2·82	0·40	2·78	0·39	2·73	0·39	2·68	0·38	2·64	0·38	2·60	0·36	2·55	0·36	2·51	0·35	2·46	0·35	2·42	0·34	220
230	3·27	0·43	3·22	0·43	3·17	0·42	3·12	0·42	3·06	0·41	3·02	0·40	2·96	0·40	2·91	0·39	2·86	0·38	2·81	0·38	2·76	0·37	230
240	3·70	0·48	3·65	0·47	3·59	0·46	3·54	0·45	3·47	0·45	3·42	0·44	3·36	0·43	3·30	0·43	3·24	0·42	3·19	0·41	3·13	0·40	240
250	4·18	0·51	4·12	0·50	4·05	0·49	3·99	0·48	3·92	0·48	3·86	0·47	3·79	0·46	3·73	0·45	3·66	0·45	3·60	0·43	3·53	0·43	250
260	4·69	0·54	4·62	0·53	4·54	0·53	4·47	0·52	4·40	0·51	4·33	0·50	4·25	0·49	4·18	0·48	4·11	0·47	4·03	0·47	3·96	0·46	260
270	5·23	0·59	5·15	0·58	5·07	0·57	4·99	0·56	4·91	0·55	4·83	0·54	4·74	0·54	4·66	0·53	4·58	0·52	4·50	0·51	4·42	0·50	270
280	5·82	0·63	5·73	0·62	5·64	0·61	5·55	0·60	5·46	0·59	5·37	0·59	5·28	0·58	5·19	0·57	5·10	0·56	5·01	0·55	4·92	0·54	280
290	6·45	0·67	6·35	0·66	6·25	0·65	6·15	0·64	6·05	0·63	5·96	0·62	5·86	0·61	5·76	0·60	5·66	0·59	5·56	0·58	5·46	0·57	290
300	7·12	0·72	7·01	0·71	6·90	0·70	6·79	0·69	6·68	0·68	6·58	0·66	6·47	0·64	6·36	0·63	6·25	0·62	6·14	0·61	6·03	0·60	**300**
310	7·84	0·75	7·72	0·75	7·60	0·73	7·48	0·72	7·36	0·71	7·24	0·70	7·11	0·69	6·99	0·68	6·87	0·67	6·75	0·66	6·63	0·65	310
320	8·59	0·81	8·47	0·79	8·33	0·78	8·20	0·77	8·07	0·75	7·94	0·74	7·80	0·74	7·67	0·72	7·54	0·71	7·41	0·69	7·28	0·68	320
330	9·40	0·85	9·26	0·83	9·11	0·83	8·97	0·81	8·82	0·80	8·68	0·78	8·54	0·77	8·39	0·76	8·25	0·74	8·10	0·74	7·96	0·72	330
340	10·25	0·89	10·09	0·88	9·94	0·86	9·78	0·85	9·62	0·84	9·46	0·84	9·31	0·82	9·15	0·81	8·99	0·80	8·84	0·78	8·68	0·77	340
350	11·14	0·94	10·97	0·93	10·80	0·91	10·63	0·90	10·46	0·89	10·30	0·87	10·13	0·85	9·96	0·84	9·79	0·83	9·62	0·82	9·45	0·80	350
360	12·08	1·00	11·90	0·98	11·71	0·97	11·53	0·96	11·35	0·94	11·17	0·92	10·98	0·91	10·80	0·89	10·62	0·88	10·44	0·86	10·25	0·85	360
370	13·08	1·04	12·88	1·03	12·68	1·01	12·49	0·99	12·29	0·98	12·09	0·97	11·89	0·95	11·69	0·94	11·50	0·92	11·30	0·90	11·10	0·89	370
380	14·12	1·09	13·91	1·07	13·69	1·06	13·48	1·04	13·27	1·02	13·06	1·01	12·84	1·00	12·63	0·98	12·42	0·96	12·20	0·95	11·99	0·93	380
390	15·21	1·14	14·98	1·13	14·75	1·11	14·52	1·10	14·29	1·08	14·07	1·06	13·84	1·04	13·61	1·03	13·38	1·01	13·15	1·00	12·92	0·98	390
400	16·35	1·20	16·11	1·18	15·86	1·16	15·62	1·14	15·37	1·13	15·13	1·11	14·88	1·09	14·64	1·07	14·39	1·06	14·15	1·03	13·90	1·02	**400**
410	17·55	1·25	17·29	1·22	17·02	1·21	16·76	1·19	16·50	1·17	16·24	1·15	15·97	1·14	15·71	1·12	15·45	1·10	15·18	1·09	14·92	1·07	410
420	18·80	1·30	18·51	1·29	18·23	1·27	17·95	1·25	17·67	1·23	17·39	1·21	17·11	1·19	16·83	1·17	16·55	1·15	16·27	1·13	15·99	1·11	420
430	20·10	1·35	19·80	1·33	19·50	1·31	19·20	1·29	18·90	1·27	18·60	1·26	18·30	1·24	18·00	1·22	17·70	1·20	17·40	1·19	17·10	1·17	430
440	21·45	1·41	21·13	1·39	20·81	1·37	20·49	1·36	20·17	1·34	19·86	1·31	19·54	1·29	19·22	1·27	18·90	1·26	18·59	1·23	18·27	1·21	440
450	22·86	1·45	22·52	1·43	22·18	1·41	21·85	1·39	21·51	1·37	21·17	1·35	20·83	1·34	20·49	1·32	20·16	1·29	19·82	1·27	19·48	1·25	450
460	24·31	1·52	23·95	1·50	23·59	1·48	23·24	1·45	22·88	1·43	22·52	1·42	22·17	1·39	21·81	1·37	21·45	1·35	21·09	1·33	20·73	1·31	460
470	25·83	1·57	25·45	1·55	25·07	1·53	24·69	1·51	24·31	1·49	23·94	1·46	23·56	1·43	23·18	1·41	22·80	1·39	22·42	1·37	22·04	1·35	470
480	27·40	1·62	27·00	1·60	26·60	1·58	26·20	1·55	25·80	1·53	25·40	1·51	24·99	1·50	24·59	1·48	24·19	1·45	23·79	1·43	23·39	1·41	480
490	29·02	1·69	28·60	1·66	28·18	1·64	27·75	1·62	27·33	1·60	26·91	1·57	26·49	1·54	26·07	1·52	25·64	1·50	25·22	1·48	24·80	1·45	490
500	30·71		30·26		29·82		29·37		28·93		28·48		28·03		27·59		27·14		26·70		26·25		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 1200—1300.

	1200	Diff.	1210	Diff.	1220	Diff.	1230	Diff.	1240	Diff.	1250	Diff.	1260	Diff.	1270	Diff.	1280	Diff.	1290	Diff.	1300	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	20
30	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	30
40	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	40
50	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	50
60	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	60
70	0·08	0·04	0·08	0·04	0·08	0·04	0·08	0·04	0·08	0·04	0·08	0·04	0·07	0·04	0·07	0·04	0·07	0·04	0·07	0·03	0·07	0·03	70
80	0·12	0·05	0·12	0·05	0·12	0·04	0·12	0·04	0·12	0·04	0·12	0·04	0·11	0·04	0·11	0·04	0·11	0·04	0·10	0·04	0·10	0·04	80
90	0·17	0·06	0·17	0·06	0·16	0·06	0·16	0·06	0·16	0·05	0·16	0·05	0·15	0·06	0·15	0·05	0·15	0·05	0·14	0·05	0·14	0·05	90
100	0·23	0·07	0·23	0·07	0·22	0·07	0·22	0·07	0·21	0·07	0·21	0·07	0·21	0·07	0·20	0·07	0·20	0·07	0·19	0·07	0·19	0·07	**100**
110	0·30	0·09	0·30	0·09	0·29	0·09	0·29	0·09	0·28	0·09	0·28	0·09	0·28	0·08	0·27	0·08	0·27	0·08	0·26	0·08	0·26	0·08	110
120	0·39	0·11	0·39	0·10	0·38	0·11	0·38	0·10	0·37	0·10	0·37	0·10	0·36	0·10	0·35	0·10	0·35	0·09	0·34	0·10	0·34	0·09	120
130	0·50	0·13	0·49	0·13	0·49	0·12	0·48	0·12	0·47	0·12	0·47	0·12	0·46	0·12	0·45	0·11	0·44	0·11	0·44	0·11	0·43	0·11	130
140	0·63	0·14	0·62	0·14	0·61	0·14	0·60	0·14	0·59	0·14	0·59	0·13	0·58	0·13	0·56	0·13	0·55	0·13	0·55	0·12	0·54	0·12	140
150	0·77	0·17	0·76	0·16	0·75	0·16	0·74	0·16	0·73	0·15	0·72	0·15	0·71	0·15	0·69	0·15	0·68	0·15	0·67	0·14	0·66	0·14	150
160	0·94	0·18	0·92	0·18	0·91	0·18	0·90	0·17	0·88	0·18	0·87	0·17	0·86	0·17	0·84	0·17	0·83	0·16	0·81	0·16	0·80	0·16	160
170	1·12	0·21	1·10	0·21	1·09	0·20	1·07	0·20	1·06	0·20	1·04	0·20	1·03	0·19	1·01	0·19	0·99	0·18	0·97	0·18	0·96	0·18	170
180	1·33	0·24	1·31	0·24	1·29	0·23	1·27	0·22	1·26	0·22	1·24	0·22	1·22	0·21	1·20	0·21	1·17	0·21	1·15	0·21	1·14	0·20	180
190	1·57	0·25	1·55	0·25	1·52	0·25	1·49	0·25	1·48	0·24	1·46	0·24	1·43	0·23	1·41	0·23	1·38	0·23	1·36	0·23	1·34	0·22	190
200	1·82	0·28	1·80	0·28	1·77	0·27	1·74	0·27	1·72	0·26	1·70	0·26	1·66	0·26	1·64	0·25	1·61	0·25	1·59	0·25	1·56	0·24	**200**
210	2·10	0·32	2·08	0·31	2·04	0·31	2·01	0·30	1·98	0·30	1·96	0·29	1·92	0·29	1·89	0·28	1·86	0·28	1·84	0·27	1·80	0·27	210
220	2·42	0·34	2·39	0·33	2·35	0·33	2·31	0·33	2·28	0·32	2·25	0·31	2·21	0·31	2·17	0·31	2·14	0·30	2·11	0·29	2·07	0·29	220
230	2·76	0·37	2·72	0·36	2·68	0·36	2·64	0·35	2·60	0·35	2·56	0·34	2·52	0·33	2·48	0·33	2·44	0·32	2·40	0·32	2·36	0·31	230
240	3·13	0·40	3·08	0·40	3·04	0·39	2·99	0·39	2·95	0·38	2·90	0·38	2·85	0·37	2·81	0·36	2·76	0·36	2·72	0·35	2·67	0·35	240
250	3·53	0·43	3·48	0·42	3·43	0·42	3·38	0·41	3·33	0·40	3·28	0·40	3·22	0·40	3·17	0·39	3·12	0·38	3·07	0·37	3·02	0·37	250
260	3·96	0·46	3·90	0·46	3·85	0·45	3·79	0·44	3·73	0·43	3·68	0·42	3·62	0·42	3·56	0·41	3·50	0·41	3·44	0·40	3·39	0·39	260
270	4·42	0·50	4·36	0·49	4·30	0·48	4·23	0·48	4·16	0·48	4·10	0·47	4·04	0·45	3·97	0·45	3·91	0·44	3·84	0·44	3·78	0·43	270
280	4·92	0·54	4·85	0·53	4·78	0·52	4·71	0·52	4·64	0·51	4·57	0·50	4·49	0·50	4·42	0·49	4·35	0·48	4·28	0·48	4·21	0·47	280
290	5·46	0·57	5·38	0·56	5·30	0·56	5·23	0·54	5·15	0·54	5·07	0·53	4·99	0·52	4·91	0·52	4·83	0·51	4·76	0·50	4·68	0·49	290
300	6·03	0·60	5·94	0·60	5·86	0·58	5·77	0·58	5·69	0·56	5·60	0·56	5·51	0·55	5·43	0·54	5·34	0·53	5·26	0·52	5·17	0·51	**300**
310	6·63	0·65	6·54	0·64	6·44	0·63	6·35	0·62	6·25	0·61	6·16	0·60	6·06	0·60	5·97	0·58	5·87	0·58	5·78	0·56	5·68	0·56	310
320	7·28	0·68	7·18	0·67	7·07	0·66	6·97	0·65	6·86	0·65	6·76	0·64	6·66	0·62	6·55	0·62	6·45	0·61	6·34	0·60	6·24	0·59	320
330	7·96	0·72	7·85	0·71	7·73	0·70	7·62	0·69	7·51	0·68	7·40	0·67	7·28	0·66	7·17	0·65	7·06	0·64	6·94	0·63	6·83	0·62	330
340	8·68	0·77	8·56	0·76	8·43	0·75	8·31	0·74	8·19	0·72	8·07	0·71	7·94	0·71	7·82	0·69	7·70	0·68	7·57	0·67	7·45	0·66	340
350	9·45	0·80	9·32	0·79	9·18	0·78	9·05	0·77	8·91	0·76	8·78	0·75	8·65	0·73	8·51	0·73	8·38	0·71	8·24	0·71	8·11	0·69	350
360	10·25	0·85	10·11	0·83	9·96	0·83	9·82	0·81	9·67	0·80	9·53	0·79	9·38	0·78	9·24	0·76	9·09	0·75	8·95	0·74	8·80	0·73	360
370	11·10	0·89	10·94	0·88	10·79	0·86	10·63	0·85	10·47	0·84	10·32	0·83	10·16	0·82	10·00	0·81	9·84	0·80	9·69	0·78	9·53	0·77	370
380	11·99	0·93	11·82	0·92	11·65	0·91	11·48	0·90	11·31	0·89	11·15	0·87	10·98	0·86	10·81	0·84	10·64	0·83	10·47	0·82	10·30	0·81	380
390	12·92	0·98	12·74	0·97	12·56	0·95	12·38	0·94	12·20	0·92	12·02	0·91	11·84	0·90	11·65	0·89	11·47	0·88	11·29	0·86	11·11	0·85	390
400	13·90	1·02	13·71	1·01	13·51	0·99	13·32	0·98	13·12	0·97	12·93	0·95	12·74	0·93	12·54	0·92	12·35	0·91	12·15	0·90	11·96	0·88	**400**
410	14·92	1·07	14·72	1·05	14·50	1·04	14·30	1·02	14·09	1·01	13·88	1·00	13·67	0·98	13·46	0·97	13·26	0·95	13·05	0·94	12·84	0·92	410
420	15·99	1·11	15·77	1·09	15·54	1·09	15·32	1·07	15·10	1·05	14·88	1·04	14·65	1·03	14·43	1·01	14·21	0·99	13·99	0·98	13·76	0·97	420
430	17·10	1·17	16·86	1·16	16·63	1·13	16·39	1·12	16·15	1·10	15·92	1·08	15·68	1·07	15·44	1·05	15·20	1·04	14·97	1·02	14·73	1·00	430
440	18·27	1·21	18·02	1·19	17·76	1·18	17·51	1·16	17·25	1·15	17·00	1·13	16·75	1·11	16·49	1·10	16·24	1·08	15·99	1·06	15·73	1·05	440
450	19·48	1·25	19·21	1·23	18·94	1·22	18·67	1·20	18·40	1·19	18·13	1·17	17·86	1·15	17·59	1·14	17·32	1·12	17·05	1·11	16·78	1·09	450
460	20·73	1·31	20·44	1·30	20·16	1·27	19·87	1·26	19·59	1·24	19·30	1·23	19·01	1·21	18·73	1·19	18·44	1·17	18·16	1·15	17·87	1·14	460
470	22·04	1·35	21·74	1·33	21·43	1·32	21·13	1·30	20·83	1·28	20·53	1·26	20·22	1·25	19·92	1·23	19·61	1·22	19·31	1·20	19·01	1·18	470
480	23·39	1·41	23·07	1·39	22·75	1·37	22·43	1·35	22·11	1·33	21·79	1·32	21·47	1·30	21·15	1·28	20·83	1·26	20·51	1·24	20·19	1·22	480
490	24·80	1·45	24·46	1·43	24·12	1·41	23·78	1·40	23·44	1·38	23·11	1·35	22·77	1·33	22·43	1·31	22·09	1·30	21·75	1·28	21·41	1·26	490
500	26·25		25·89		25·53		25·18		24·82		24·46		24·10		23·74		23·39		23·03		22·67		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 1300—1400.

	1300	Diff.	1310	Diff.	1320	Diff.	1330	Diff.	1340	Diff.	1350	Diff.	1360	Diff.	1370	Diff.	1380	Diff.	1390	Diff.	1400	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	20
30	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	30
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	40
50	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	50
60	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	60
70	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	70
80	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·09	0·04	0·09	0·04	0·09	0·04	0·09	0·04	0·09	0·04	80
90	0·14	0·05	0·14	0·05	0·14	0·05	0·14	0·05	0·14	0·05	0·14	0·05	0·13	0·05	0·13	0·05	0·13	0·04	0·13	0·04	0·13	0·04	90
100	0·19	0·07	0·19	0·06	0·19	0·06	0·19	0·06	0·19	0·06	0·19	0·06	0·18	0·06	0·18	0·06	0·17	0·06	0·17	0·06	0·17	0·06	**100**
110	0·26	0·08	0·25	0·08	0·25	0·08	0·25	0·07	0·25	0·07	0·25	0·07	0·24	0·07	0·24	0·07	0·23	0·07	0·23	0·07	0·23	0·06	110
120	0·34	0·09	0·33	0·09	0·33	0·09	0·32	0·09	0·32	0·09	0·32	0·08	0·31	0·08	0·31	0·08	0·30	0·08	0·30	0·08	0·29	0·08	120
130	0·43	0·11	0·42	0·11	0·42	0·10	0·41	0·10	0·41	0·10	0·40	0·10	0·39	0·10	0·39	0·09	0·38	0·10	0·38	0·09	0·37	0·09	130
140	0·54	0·12	0·53	0·12	0·52	0·12	0·51	0·12	0·51	0·12	0·50	0·12	0·49	0·11	0·48	0·11	0·48	0·11	0·47	0·11	0·46	0·11	140
150	0·66	0·14	0·65	0·14	0·64	0·14	0·63	0·14	0·63	0·13	0·62	0·13	0·60	0·13	0·59	0·13	0·59	0·12	0·58	0·12	0·57	0·12	150
160	0·80	0·16	0·79	0·16	0·78	0·15	0·77	0·15	0·76	0·15	0·75	0·15	0·73	0·15	0·72	0·15	0·71	0·14	0·70	0·14	0·69	0·14	160
170	0·96	0·18	0·95	0·17	0·93	0·18	0·92	0·17	0·91	0·17	0·90	0·16	0·88	0·16	0·87	0·16	0·85	0·16	0·84	0·16	0·83	0·15	170
180	1·14	0·20	1·12	0·20	1·11	0·19	1·09	0·19	1·08	0·18	1·06	0·18	1·04	0·19	1·03	0·18	1·01	0·18	1·00	0·17	0·98	0·17	180
190	1·34	0·22	1·32	0·22	1·30	0·21	1·28	0·21	1·26	0·21	1·24	0·21	1·23	0·20	1·21	0·20	1·19	0·19	1·17	0·19	1·15	0·19	190
200	1·56	0·24	1·54	0·24	1·51	0·24	1·49	0·23	1·47	0·23	1·45	0·23	1·43	0·22	1·41	0·22	1·38	0·22	1·36	0·21	1·34	0·21	**200**
210	1·80	0·27	1·78	0·26	1·75	0·26	1·72	0·26	1·70	0·25	1·68	0·25	1·65	0·25	1·63	0·24	1·60	0·24	1·57	0·24	1·55	0·23	210
220	2·07	0·29	2·04	0·29	2·01	0·28	1·98	0·28	1·95	0·28	1·93	0·27	1·90	0·27	1·87	0·26	1·84	0·26	1·81	0·26	1·78	0·25	220
230	2·36	0·31	2·33	0·31	2·29	0·31	2·26	0·30	2·23	0·30	2·20	0·29	2·17	0·28	2·13	0·29	2·10	0·28	2·07	0·28	2·03	0·28	230
240	2·67	0·35	2·64	0·34	2·60	0·34	2·56	0·33	2·53	0·33	2·49	0·32	2·45	0·32	2·42	0·31	2·38	0·31	2·35	0·30	2·31	0·30	240
250	3·02	0·37	2·98	0·36	2·94	0·36	2·89	0·36	2·86	0·35	2·81	0·35	2·77	0·34	2·73	0·33	2·69	0·33	2·65	0·32	2·61	0·32	250
260	3·39	0·39	3·34	0·39	3·30	0·38	3·25	0·38	3·21	0·37	3·16	0·37	3·11	0·36	3·06	0·36	3·02	0·35	2·97	0·35	2·93	0·34	260
270	3·78	0·43	3·73	0·42	3·68	0·42	3·63	0·41	3·58	0·40	3·53	0·40	3·47	0·40	3·42	0·39	3·37	0·38	3·32	0·38	3·27	0·37	270
280	4·21	0·47	4·15	0·46	4·10	0·45	4·04	0·45	3·98	0·44	3·93	0·43	3·87	0·43	3·81	0·42	3·75	0·42	3·70	0·40	3·64	0·40	280
290	4·68	0·49	4·61	0·49	4·55	0·48	4·49	0·46	4·42	0·47	4·36	0·46	4·30	0·45	4·23	0·45	4·17	0·44	4·10	0·44	4·04	0·43	290
300	5·17	0·51	5·10	0·51	5·03	0·50	4·95	0·50	4·89	0·49	4·82	0·48	4·75	0·48	4·68	0·47	4·61	0·46	4·54	0·46	4·47	0·45	**300**
310	5·68	0·56	5·61	0·55	5·53	0·54	5·45	0·54	5·38	0·52	5·30	0·52	5·23	0·51	5·15	0·50	5·07	0·50	5·00	0·49	4·92	0·48	310
320	6·24	0·59	6·16	0·58	6·07	0·58	5·99	0·56	5·90	0·56	5·82	0·56	5·74	0·54	5·65	0·54	5·57	0·53	5·49	0·52	5·40	0·52	320
330	6·83	0·62	6·74	0·61	6·65	0·60	6·55	0·60	6·46	0·59	6·38	0·58	6·28	0·58	6·19	0·57	6·10	0·56	6·01	0·55	5·92	0·54	330
340	7·45	0·66	7·35	0·65	7·25	0·64	7·15	0·64	7·05	0·63	6·96	0·61	6·86	0·60	6·76	0·59	6·66	0·59	6·56	0·58	6·46	0·57	340
350	8·11	0·69	8·00	0·68	7·89	0·68	7·79	0·66	7·68	0·65	7·57	0·65	7·46	0·64	7·35	0·63	7·25	0·62	7·14	0·61	7·03	0·60	350
360	8·80	0·73	8·68	0·72	8·57	0·71	8·45	0·70	8·33	0·70	8·22	0·68	8·10	0·67	7·98	0·67	7·87	0·65	7·75	0·65	7·63	0·64	360
370	9·53	0·77	9·40	0·76	9·28	0·75	9·15	0·74	9·03	0·73	8·90	0·72	8·77	0·71	8·65	0·70	8·52	0·69	8·40	0·68	8·27	0·67	370
380	10·30	0·81	10·16	0·80	10·03	0·79	9·89	0·78	9·76	0·76	9·62	0·76	9·48	0·75	9·35	0·73	9·21	0·72	9·08	0·71	8·94	0·70	380
390	11·11	0·85	10·96	0·84	10·82	0·82	10·67	0·82	10·52	0·80	10·38	0·79	10·23	0·78	10·08	0·77	9·93	0·77	9·79	0·75	9·64	0·74	390
400	11·96	0·88	11·80	0·87	11·64	0·86	11·49	0·84	11·32	0·84	11·17	0·83	11·01	0·82	10·85	0·81	10·70	0·79	10·54	0·78	10·38	0·77	**400**
410	12·84	0·92	12·67	0·91	12·50	0·90	12·33	0·89	12·16	0·88	12·00	0·87	11·83	0·85	11·66	0·84	11·49	0·83	11·32	0·82	11·15	0·81	410
420	13·76	0·97	13·58	0·96	13·40	0·94	13·22	0·93	13·04	0·92	12·87	0·90	12·68	0·89	12·50	0·88	12·32	0·87	12·14	0·85	11·96	0·84	420
430	14·73	1·00	14·54	0·99	14·34	0·98	14·15	0·97	13·96	0·95	13·77	0·94	13·57	0·93	13·38	0·92	13·19	0·90	12·99	0·90	12·80	0·88	430
440	15·73	1·05	15·53	1·03	15·32	1·02	15·12	1·01	14·91	1·00	14·71	0·98	14·50	0·97	14·30	0·95	14·09	0·95	13·89	0·93	13·68	0·92	440
450	16·78	1·09	16·56	1·08	16·34	1·07	16·13	1·05	15·91	1·04	15·69	1·03	15·47	1·01	15·25	1·00	15·04	0·98	14·82	0·97	14·60	0·96	450
460	17·87	1·14	17·64	1·12	17·41	1·11	17·18	1·09	16·95	1·08	16·72	1·06	16·48	1·05	16·25	1·04	16·02	1·02	15·79	1·01	15·56	0·99	460
470	19·01	1·18	18·76	1·17	18·52	1·15	18·27	1·14	18·03	1·12	17·78	1·11	17·53	1·09	17·29	1·07	17·04	1·06	16·80	1·05	16·55	1·03	470
480	20·19	1·22	19·93	1·21	19·67	1·19	19·41	1·18	19·15	1·16	18·89	1·15	18·62	1·14	18·36	1·13	18·10	1·11	17·85	1·09	17·58	1·08	480
490	21·41	1·26	21·14	1·24	20·86	1·23	20·59	1·21	20·31	1·20	20·04	1·18	19·76	1·17	19·49	1·15	19·21	1·14	18·94	1·12	18·66	1·11	490
500	22·67		22·38		22·09		21·80		21·51		21·22		20·93		20·64		20·35		20·06		19·77		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 1400—1500.

	1400	Diff.	1410	Diff.	1420	Diff.	1430	Diff.	1440	Diff.	1450	Diff.	1460	Diff.	1470	Diff.	1480	Diff.	1490	Diff.	1500	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	30
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	40
50	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	50
60	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	60
70	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	70
80	0·09	0·04	0·09	0·04	0·09	0·04	0·09	0·03	0·09	0·03	0·09	0·03	0·08	0·04	0·08	0·04	0·08	0·03	0·08	0·03	0·08	0·03	80
90	0·13	0·04	0·13	0·04	0·13	0·04	0·12	0·04	0·12	0·04	0·12	0·04	0·12	0·04	0·12	0·04	0·11	0·04	0·11	0·04	0·11	0·04	90
100	0·17	0·06	0·17	0·06	0·17	0·05	0·16	0·06	0·16	0·06	0·16	0·05	0·16	0·05	0·16	0·05	0·15	0·06	0·15	0·05	0·15	0·05	**100**
110	0·23	0·06	0·23	0·06	0·22	0·06	0·22	0·06	0·22	0·06	0·22	0·05	0·21	0·06	0·21	0·06	0·21	0·06	0·20	0·06	0·20	0·05	110
120	0·29	0·08	0·29	0·08	0·28	0·08	0·28	0·08	0·28	0·07	0·28	0·07	0·27	0·07	0·27	0·07	0·27	0·07	0·26	0·07	0·26	0·07	120
130	0·37	0·09	0·37	0·09	0·36	0·09	0·36	0·09	0·35	0·09	0·35	0·09	0·34	0·09	0·34	0·08	0·34	0·08	0·33	0·09	0·33	0·08	130
140	0·46	0·11	0·46	0·10	0·45	0·10	0·45	0·10	0·44	0·10	0·44	0·10	0·43	0·10	0·42	0·10	0·42	0·09	0·42	0·09	0·41	0·09	140
150	0·57	0·12	0·56	0·12	0·55	0·12	0·55	0·11	0·54	0·11	0·54	0·11	0·53	0·11	0·52	0·11	0·51	0·11	0·51	0·10	0·50	0·10	150
160	0·69	0·14	0·68	0·14	0·67	0·14	0·66	0·13	0·65	0·13	0·65	0·13	0·64	0·12	0·63	0·12	0·62	0·12	0·61	0·12	0·60	0·12	160
170	0·83	0·15	0·82	0·15	0·81	0·15	0·79	0·15	0·78	0·15	0·78	0·14	0·76	0·14	0·75	0·14	0·74	0·14	0·73	0·14	0·72	0·14	170
180	0·98	0·17	0·97	0·17	0·96	0·16	0·94	0·17	0·93	0·16	0·92	0·16	0·90	0·16	0·89	0·16	0·88	0·16	0·87	0·15	0·86	0·15	180
190	1·15	0·19	1·14	0·18	1·12	0·18	1·11	0·18	1·09	0·18	1·08	0·18	1·06	0·18	1·05	0·18	1·04	0·17	1·02	0·17	1·01	0·17	190
200	1·34	0·21	1·32	0·21	1·30	0·21	1·29	0·20	1·27	0·20	1·26	0·20	1·24	0·20	1·23	0·19	1·21	0·19	1·19	0·19	1·18	0·18	**200**
210	1·55	0·23	1·53	0·23	1·51	0·23	1·49	0·22	1·47	0·22	1·46	0·21	1·44	0·21	1·42	0·21	1·40	0·20	1·38	0·20	1·36	0·20	210
220	1·78	0·25	1·76	0·25	1·74	0·25	1·71	0·25	1·69	0·24	1·67	0·24	1·65	0·23	1·63	0·23	1·60	0·23	1·58	0·23	1·56	0·22	220
230	2·03	0·28	2·01	0·27	1·99	0·26	1·96	0·26	1·93	0·26	1·91	0·26	1·88	0·25	1·86	0·25	1·83	0·25	1·81	0·24	1·78	0·24	230
240	2·31	0·30	2·28	0·30	2·25	0·29	2·22	0·29	2·19	0·29	2·17	0·28	2·13	0·28	2·11	0·27	2·08	0·27	2·05	0·26	2·02	0·26	240
250	2·61	0·32	2·58	0·31	2·54	0·31	2·51	0·31	2·48	0·30	2·45	0·30	2·41	0·30	2·38	0·29	2·35	0·28	2·31	0·28	2·28	0·28	250
260	2·93	0·34	2·89	0·34	2·85	0·34	2·82	0·33	2·78	0·33	2·75	0·32	2·71	0·31	2·67	0·31	2·63	0·31	2·59	0·31	2·56	0·30	260
270	3·27	0·37	3·23	0·36	3·19	0·36	3·15	0·36	3·11	0·35	3·07	0·35	3·02	0·34	2·98	0·34	2·94	0·33	2·90	0·33	2·86	0·32	270
280	3·64	0·40	3·59	0·40	3·55	0·39	3·51	0·38	3·46	0·38	3·42	0·37	3·36	0·37	3·32	0·36	3·27	0·36	3·23	0·36	3·18	0·35	280
290	4·04	0·43	3·99	0·42	3·94	0·42	3·89	0·41	3·84	0·41	3·79	0·40	3·73	0·40	3·68	0·39	3·63	0·39	3·59	0·38	3·53	0·38	290
300	4·47	0·45	4·41	0·45	4·36	0·44	4·30	0·44	4·25	0·43	4·19	0·43	4·13	0·42	4·07	0·42	4·02	0·41	3·97	0·40	3·91	0·40	**300**
310	4·92	0·48	4·86	0·48	4·80	0·47	4·74	0·46	4·68	0·45	4·62	0·45	4·55	0·45	4·49	0·44	4·43	0·43	4·37	0·43	4·31	0·42	310
320	5·40	0·52	5·34	0·51	5·27	0·50	5·20	0·50	5·13	0·49	5·07	0·48	5·00	0·47	4·93	0·47	4·86	0·46	4·80	0·45	4·73	0·45	320
330	5·92	0·54	5·85	0·53	5·77	0·53	5·70	0·52	5·62	0·52	5·55	0·51	5·47	0·50	5·40	0·49	5·32	0·49	5·25	0·48	5·18	0·47	330
340	6·46	0·57	6·38	0·56	6·30	0·55	6·22	0·55	6·14	0·54	6·06	0·53	5·97	0·53	5·89	0·52	5·81	0·52	5·73	0·51	5·65	0·50	340
350	7·03	0·60	6·94	0·60	6·85	0·59	6·77	0·58	6·68	0·57	6·59	0·57	6·50	0·56	6·41	0·56	6·33	0·54	6·24	0·54	6·15	0·53	350
360	7·63	0·64	7·54	0·63	7·44	0·62	7·35	0·61	7·25	0·61	7·16	0·60	7·06	0·59	6·97	0·58	6·87	0·58	6·78	0·56	6·68	0·56	360
370	8·27	0·67	8·17	0·66	8·06	0·66	7·96	0·65	7·86	0·64	7·76	0·63	7·65	0·62	7·55	0·61	7·45	0·60	7·34	0·60	7·24	0·59	370
380	8·94	0·70	8·83	0·69	8·72	0·68	8·61	0·68	8·50	0·67	8·39	0·66	8·27	0·66	8·16	0·65	8·05	0·64	7·94	0·63	7·83	0·62	380
390	9·64	0·74	9·52	0·73	9·40	0·72	9·29	0·71	9·17	0·70	9·05	0·69	8·93	0·68	8·81	0·67	8·69	0·67	8·57	0·65	8·45	0·65	390
400	10·38	0·77	10·25	0·76	10·12	0·76	10·00	0·74	9·87	0·73	9·74	0·73	9·61	0·72	9·48	0·71	9·36	0·69	9·23	0·69	9·10	0·68	**400**
410	11·15	0·81	11·01	0·80	10·88	0·79	10·74	0·78	10·60	0·77	10·47	0·76	10·33	0·75	10·19	0·74	10·05	0·73	9·92	0·72	9·78	0·71	410
420	11·96	0·84	11·81	0·83	11·67	0·82	11·52	0·81	11·37	0·80	11·23	0·79	11·08	0·78	10·93	0·77	10·78	0·76	10·64	0·75	10·49	0·74	420
430	12·80	0·88	12·64	0·87	12·49	0·86	12·33	0·85	12·17	0·84	12·02	0·83	11·86	0·82	11·70	0·81	11·54	0·80	11·39	0·79	11·23	0·78	430
440	13·68	0·92	13·51	0·91	13·35	0·89	13·18	0·89	13·01	0·88	12·85	0·86	12·68	0·85	12·51	0·84	12·34	0·84	12·18	0·82	12·01	0·81	440
450	14·60	0·96	14·42	0·95	14·24	0·94	14·07	0·92	13·89	0·91	13·71	0·90	13·53	0·89	13·35	0·88	13·18	0·86	13·00	0·85	12·82	0·84	450
460	15·56	0·99	15·37	0·98	15·18	0·97	14·99	0·96	14·80	0·95	14·61	0·94	14·42	0·92	14·23	0·91	14·04	0·90	13·85	0·89	13·66	0·88	460
470	16·55	1·03	16·35	1·02	16·15	1·01	15·95	0·99	15·75	0·98	15·55	0·97	15·34	0·96	15·14	0·95	14·94	0·94	14·74	0·92	14·54	0·91	470
480	17·58	1·08	17·37	1·06	17·16	1·05	16·94	1·04	16·73	1·02	16·52	1·01	16·30	1·00	16·09	0·98	15·88	0·96	15·66	0·96	15·45	0·94	480
490	18·66	1·11	18·43	1·10	18·21	1·08	17·98	1·07	17·75	1·06	17·53	1·04	17·30	1·03	17·07	1·02	16·84	1·01	16·62	0·99	16·39	0·98	490
500	19·77		19·53		19·29		19·05		18·81		18·57		18·33		18·09		17·85		17·61		17·37		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 1500—1600.

	1500	Diff.	1510	Diff.	1520	Diff.	1530	Diff.	1540	Diff.	1550	Diff.	1560	Diff.	1570	Diff.	1580	Diff.	1590	Diff.	1600	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0 00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	30
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	40
50	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	50
60	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	60
70	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	70
80	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	80
90	0·11	0·04	0·11	0·04	0·11	0·04	0·11	0·04	0·11	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·03	0·10	0·03	90
100	0·15	0·05	0·15	0·05	0·15	0·04	0·15	0·04	0 15	0·04	0·14	0·05	0·14	0·04	0·14	0·04	0·14	0·04	0·13	0·04	0·13	0·04	**100**
110	0·20	0·06	0·20	0·06	0·19	0·06	0·19	0·05	0·19	0·05	0·19	0·05	0·18	0·05	0·18	0·05	0·18	0·05	0·17	0·05	0·17	0·05	110
120	0·26	0·07	0·26	0·07	0·25	0·07	0·25	0·07	0·24	0·07	0·24	0·07	0·24	0·06	0·23	0·07	0·23	0·06	0·22	0·07	0·22	0·06	120
130	0·33	0·08	0·33	0·08	0·32	0·08	0·32	0·08	0·31	0·08	0·31	0·08	0·30	0·08	0·30	0·08	0·29	0·08	0·29	0·08	0·28	0·08	130
140	0·41	0·09	0·41	0·08	0·40	0·09	0·40	0·09	0·39	0·09	0·39	0·08	0·38	0·08	0·38	0·08	0·37	0·08	0·37	0·08	0·36	0·08	140
150	0·50	0·10	0·49	0·10	0·49	0·10	0·49	0·10	0·48	0·10	0·47	0·10	0·46	0·10	0·46	0·09	0·45	0·10	0·45	0·09	0·44	0·09	150
160	0·60	0·12	0·59	0·12	0·59	0·11	0·59	0·11	0·58	0·11	0·57	0·11	0·56	0·11	0·55	0·11	0·55	0·11	0·54	0·11	0·53	0·11	160
170	0·72	0·14	0·71	0·14	0·70	0·13	0·70	0·13	0·69	0·13	0·68	0·13	0·67	0·13	0·66	0·13	0·66	0·12	0·65	0·12	0·64	0·12	170
180	0·86	0·15	0·85	0·15	0·83	0·15	0·83	0·14	0·82	0·14	0·81	0·14	0·80	0·14	0·79	0·14	0·78	0·13	0·77	0·13	0·76	0·13	180
190	1·01	0·17	1 00	0·16	0·98	0·17	0·97	0·16	0·96	0·16	0·95	0·16	0·94	0·15	0·93	0·15	0·91	0·15	0·90	0·15	0·89	0·14	190
200	1·18	0·18	1·16	0·18	1·15	0·18	1·13	0·18	1·12	0·17	1·11	0·17	1·09	0·17	1·08	0·16	1·06	0·16	1·05	0·16	1·03	0·16	**200**
210	1·36	0·20	1·34	0·20	1·33	0·19	1·31	0·19	1·29	0·19	1·28	0·19	1·26	0·19	1·24	0·19	1·22	0·19	1·21	0·18	1·19	0·18	210
220	1·56	0·22	1·54	0·22	1·52	0·22	1·50	0·22	1·48	0·21	1·47	0·21	1·45	0·20	1·43	0·20	1·41	0·20	1·39	0·20	1·37	0·20	220
230	1·78	0·24	1·76	0·24	1·74	0·23	1·72	0·23	1·69	0·23	1·68	0·22	1·65	0·23	1·63	0·22	1·61	0·22	1·59	0·21	1·57	0·21	230
240	2·02	0·26	2·00	0·25	1·97	0·26	1·95	0·25	1·92	0·25	1·90	0·25	1·88	0·24	1·85	0·24	1·83	0·23	1·80	0·23	1·78	0·23	240
250	2·28	0·28	2·25	0·27	2·23	0·27	2·20	0·27	2·17	0·27	2·15	0·26	2·12	0·26	2·09	0·25	2·06	0·25	2·03	0·25	2·01	0·24	250
260	2·56	0·30	2·52	0·30	2·50	0·29	2·47	0·29	2·44	0·28	2·41	0·28	2·38	0·28	2·34	0·28	2·31	0·28	2·28	0·27	2·25	0·27	260
270	2·86	0·32	2·82	0·32	2·79	0·32	2·76	0·31	2·72	0·31	2·69	0·31	2·66	0·30	2·62	0·30	2·59	0·29	2·55	0·29	2·52	0·29	270
280	3·18	0·35	3·14	0·35	3·11	0·34	3·07	0·33	3·03	0·33	3·00	0·33	2·96	0·32	2·92	0·32	2·88	0·31	2·84	0·31	2·81	0·30	280
290	3·53	0·38	3·49	0·37	3·45	0·37	3·40	0·36	3·36	0·36	3·33	0·35	3·28	0·35	3·24	0·34	3·19	0·34	3·15	0·33	3·11	0·33	290
300	3·91	0·40	3·86	0·39	3·82	0·39	3·76	0·39	3·72	0·38	3·68	0·37	3·63	0·37	3·58	0·37	3·53	0·36	3·48	0·36	3·44	0·35	**300**
310	4·31	0·42	4·25	0·42	4·21	0·41	4·15	0·41	4·10	0·40	4·05	0·40	4·00	0·39	3·95	0·39	3·89	0·39	3·84	0·38	3·79	0·38	310
320	4·73	0·45	4·67	0·45	4·62	0·44	4·56	0·43	4·50	0·43	4·45	0·42	4·39	0·42	4·34	0·41	4·28	0·40	4·22	0·40	4·17	0·39	320
330	5·18	0·47	5·12	0·47	5·06	0·46	4·99	0·46	4·93	0·45	4·87	0·45	4·81	0·44	4·75	0·43	4·68	0·43	4·62	0·43	4·56	0·42	330
340	5·65	0·50	5·59	0·49	5·52	0·49	5·45	0·48	5·38	0·48	5·32	0·47	5·25	0·47	5·18	0·46	5·11	0·46	5·05	0·45	4·98	0·45	340
350	6·15	0·53	6·08	0·52	6·01	0·51	5·93	0·52	5·86	0·51	5·79	0·50	5·72	0·49	5·64	0·49	5·57	0·49	5·50	0·48	5·43	0·47	350
360	6·68	0·56	6·60	0·56	6·52	0·55	6·45	0·54	6·37	0·53	6·29	0·53	6·21	0·52	6·13	0·52	6·06	0·50	5·98	0·50	5·90	0·49	360
370	7·24	0·59	7·16	0·58	7·07	0·58	6·99	0·56	6·90	0·56	6·82	0·56	6·73	0·55	6·65	0·54	6·56	0·53	6·48	0·52	6·39	0·52	370
380	7·83	0·62	7·74	0·61	7·65	0·60	7·55	0·60	7·46	0·59	7·38	0·58	7·28	0·58	7·19	0·57	7·09	0·56	7·00	0·56	6·91	0·55	380
390	8·45	0·65	8·35	0·64	8·25	0·64	8·15	0·63	8·05	0·62	7·96	0·61	7·86	0·60	7·76	0·59	7·65	0·59	7·56	0·58	7·46	0·57	390
400	9·10	0·68	8·99	0·68	8·89	0·66	8·78	0·66	8·67	0·65	8·57	0·64	8·46	0·64	8·35	0·63	8·24	0·62	8·14	0·61	8·03	0·61	**400**
410	9·78	0·71	9·67	0·70	9·55	0·70	9·44	0·68	9·32	0·68	9·21	0·67	9·10	0·66	8·98	0·66	8·86	0·65	8·75	0·64	8·64	0·63	410
420	10·49	0·74	10·37	0·73	10·25	0·72	10·12	0·72	10·00	0·71	9·88	0·70	9·76	0·69	9·64	0·68	9·51	0·68	9·39	0·67	9·27	0·66	420
430	11·23	0·78	11·10	0·77	10·97	0·76	10·84	0·75	10·71	0·74	10·58	0·73	10·45	0·72	10·32	0·71	10·19	0·70	10·06	0·69	9·93	0·68	430
440	12·01	0·81	11·87	0·80	11·73	0·79	11·59	0·78	11·45	0·77	11·31	0·77	11·17	0·76	11·03	0·75	10·89	0·74	10·75	0·73	10·61	0·72	440
450	12·82	0·84	12·67	0·83	12·52	0·82	12·37	0·82	12 22	0·81	12·08	0·79	11·93	0·78	11·78	0·77	11·63	0·77	11·48	0·76	11·33	0·75	450
460	13·66	0·88	13·50	0·87	13·34	0·86	13·19	0·85	13·03	0·84	12·87	0·83	12·71	0·82	12·55	0·81	12·40	0·80	12·24	0·79	12·08	0·78	460
470	14·54	0·91	14·37	0·90	14·20	0·89	14·04	0·88	13·87	0·87	13·70	0·86	13·53	0·85	13·36	0·84	13·20	0·83	13·03	0·82	12·86	0·81	470
480	15·45	0·94	15·27	0·93	15·09	0·92	14·92	0·91	14·74	0·90	14·56	0·89	14·38	0·88	14·20	0·87	14·03	0·86	13·85	0·85	13·67	0·84	480
490	16·39	0·98	16·20	0·97	16·01	0·96	15·83	0·94	15·64	0·93	15·45	0·92	15·26	0·92	15·07	0·91	14·89	0·89	14·70	0·88	14·51	0·87	490
500	17·37		17·17		16·97		16·77		16·57		16·37		16·18		15·98		15·78		15·58		15·38		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 1600—1700.

	1600	Diff.	1610	Diff.	1620	Diff.	1630	Diff.	1640	Diff.	1650	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
50	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
60	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·01
70	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·04	0·02
80	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·02	0·07	0·02	0·06	0·03
90	0·10	0·03	0·10	0·03	0·10	0·03	0·09	0·03	0·09	0·03	0·09	0·03
100	0·13	0·04	0·13	0·04	0·13	0·04	0·12	0·04	0·12	0·04	0·12	0·04
110	0·17	0·05	0·17	0·05	0·17	0·05	0·16	0·05	0·16	0·05	0·16	0·05
120	0·22	0·06	0·22	0·06	0·22	0·06	0·21	0·06	0·21	0·06	0·21	0·06
130	0·28	0·08	0·28	0·07	0·28	0·07	0·27	0·07	0·27	0·07	0·27	0·07
140	0·36	0·08	0·35	0·08	0·35	0·08	0·34	0·08	0·34	0·08	0·34	0·08
150	0·44	0·09	0·43	0·09	0·43	0·09	0·42	0·09	0·42	0·09	0·42	0·09
160	0·53	0·11	0·52	0·11	0·52	0·10	0·51	0·10	0·51	0·10	0·51	0·10
170	0·64	0·12	0·63	0·12	0·62	0·12	0·61	0·12	0·61	0·11	0·61	0·11
180	0·76	0·13	0·75	0·13	0·74	0·13	0·73	0·13	0·72	0·13	0·72	0·12
190	0·89	0·14	0·88	0·14	0·87	0·14	0·86	0·14	0·85	0·14	0·84	0·14
200	1·03	0·16	1·02	0·16	1·01	0·15	1·00	0·15	0·99	0·15	0·98	0·15
210	1·19	0·18	1·18	0·18	1·16	0·17	1·15	0·17	1·14	0·17	1·13	0·17
220	1·37	0·20	1·36	0·19	1·33	0·20	1·32	0·19	1·31	0·19	1·30	0·18
230	1·57	0·21	1·55	0·21	1·53	0·21	1·51	0·21	1·50	0·20	1·48	0·20
240	1·78	0·23	1·76	0·23	1·74	0·22	1·72	0·22	1·70	0·22	1·68	0·22
250	2·01	0·24	1·99	0·24	1·96	0·24	1·94	0·24	1·92	0·24	1·90	0·23
260	2·25	0·27	2·23	0·26	2·20	0·26	2·18	0·26	2·16	0·25	2·13	0·25
270	2·52	0·29	2·49	0·28	2·46	0·28	2·44	0·27	2·41	0·27	2·38	0·27
280	2·81	0·30	2·77	0·30	2·74	0·30	2·71	0·29	2·68	0·29	2·65	0·29
290	3·11	0·33	3·07	0·33	3·04	0·32	3·00	0·32	2·97	0·31	2·94	0·31
300	3·44	0·35	3·40	0·35	3·36	0·35	3·32	0·34	3·28	0·34	3·25	0·33
310	3·79	0·38	3·75	0·37	3·71	0·37	3·66	0·36	3·62	0·36	3·58	0·35
320	4·17	0·39	4·12	0·39	4·08	0·38	4·02	0·39	3·98	0·38	3·93	0·38
330	4·56	0·42	4·51	0·42	4·46	0·41	4·41	0·41	4·36	0·40	4·31	0·40
340	4·98	0·45	4·93	0·44	4·87	0·44	4·82	0·43	4·76	0·43	4·71	0·42
350	5·43	0·47	5·37	0·46	5·31	0·46	5·25	0·45	5·19	0·45	5·13	0·44
360	5·90	0·49	5·83	0·49	5·77	0·48	5·70	0·48	5·64	0·47	5·57	0·47
370	6·39	0·52	6·32	0·51	6·25	0·51	6·18	0·50	6·11	0·49	6·04	0·49
380	6·91	0·55	6·83	0·54	6·76	0·53	6·68	0·53	6·60	0·52	6·53	0·52
390	7·46	0·57	7·37	0·57	7·29	0·56	7·21	0·55	7·12	0·55	7·05	0·54
400	8·03	0·61	7·94	0·60	7·85	0·60	7·76	0·59	7·67	0·58	7·59	0·57
410	8·64	0·63	8·54	0·63	8·45	0·62	8·35	0·61	8·25	0·61	8·16	0·60
420	9·27	0·66	9·17	0·65	9·07	0·64	8·96	0·64	8·86	0·63	8·76	0·62
430	9·93	0·68	9·82	0·68	9·71	0·67	9·60	0·66	9·49	0·66	9·38	0·65
440	10·61	0·72	10·50	0·71	10·38	0·70	10·26	0·70	10·15	0·68	10·03	0·68
450	11·33	0·75	11·21	0·74	11·08	0·74	10·96	0·72	10·83	0·72	10·71	0·71
460	12·08	0·78	11·95	0·77	11·82	0·76	11·68	0·76	11·55	0·75	11·42	0·74
470	12·86	0·81	12·72	0·80	12·58	0·79	12·44	0·78	12·30	0·77	12·16	0·77
480	13·67	0·84	13·52	0·83	13·37	0·82	13·22	0·82	13·07	0·81	12·93	0·79
490	14·51	0·87	14·35	0·86	14·19	0·86	14·04	0·84	13·88	0·83	13·72	0·83
500	15·38		15·21		15·05		14·88		14·71		14·55	

	1660	Diff.	1670	Diff.	1680	Diff.	1690	Diff.	1700	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
50	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
60	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
70	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02
80	0·06	0·03	0·06	0·03	0·06	0·02	0·06	0·02	0·06	0·02
90	0·09	0·03	0·09	0·03	0·08	0·03	0·08	0·03	0·08	0·03
100	0·12	0·04	0·12	0·04	0·11	0·04	0·11	0·04	0·11	0·04
110	0·16	0·05	0·16	0·05	0·15	0·05	0·15	0·05	0·15	0·05
120	0·21	0·06	0·21	0·06	0·20	0·06	0·20	0·06	0·20	0·05
130	0·27	0·07	0·27	0·07	0·26	0·07	0·26	0·07	0·26	0·05
140	0·34	0·07	0·34	0·07	0·33	0·07	0·33	0·07	0·32	0·07
150	0·41	0·08	0·41	0·08	0·40	0·08	0·40	0·08	0·39	0·08
160	0·49	0·10	0·49	0·10	0·48	0·10	0·48	0·09	0·47	0·09
170	0·59	0·12	0·59	0·11	0·58	0·11	0·57	0·11	0·56	0·11
180	0·71	0·12	0·70	0·12	0·69	0·12	0·68	0·12	0·67	0·12
190	0·83	0·13	0·82	0·13	0·81	0·13	0·80	0·13	0·79	0·13
200	0·96	0·15	0·95	0·15	0·94	0·15	0·93	0·15	0·92	0·14
210	1·11	0·17	1·10	0·16	1·09	0·16	1·08	0·16	1·06	0·16
220	1·28	0·18	1·26	0·18	1·25	0·18	1·24	0·17	1·22	0·17
230	1·46	0·20	1·44	0·20	1·43	0·19	1·41	0·19	1·39	0·19
240	1·66	0·21	1·64	0·21	1·62	0·21	1·60	0·20	1·58	0·20
250	1·87	0·23	1·85	0·23	1·83	0·22	1·80	0·22	1·78	0·22
260	2·10	0·25	2·08	0·25	2·05	0·24	2·02	0·24	2·00	0·24
270	2·35	0·27	2·33	0·26	2·29	0·26	2·26	0·26	2·24	0·25
280	2·62	0·28	2·59	0·28	2·55	0·28	2·52	0·28	2·49	0·27
290	2·90	0·31	2·87	0·30	2·83	0·30	2·80	0·29	2·76	0·29
300	3·21	0·33	3·17	0·33	3·13	0·32	3·09	0·32	3·05	0·32
310	3·54	0·35	3·50	0·34	3·45	0·34	3·41	0·34	3·37	0·33
320	3·89	0·37	3·84	0·36	3·79	0·36	3·75	0·36	3·70	0·35
330	4·26	0·39	4·20	0·39	4·15	0·38	4·11	0·38	4·05	0·38
340	4·65	0·41	4·59	0·41	4·53	0·41	4·49	0·40	4·43	0·39
350	5·06	0·44	5·00	0·43	4·94	0·43	4·89	0·42	4·82	0·42
360	5·50	0·46	5·43	0·46	5·37	0·45	5·31	0·44	5·24	0·44
370	5·96	0·49	5·89	0·48	5·82	0·47	5·75	0·47	5·68	0·46
380	6·45	0·51	6·37	0·51	6·29	0·50	6·22	0·49	6·14	0·49
390	6·96	0·54	6·88	0·53	6·79	0·53	6·71	0·52	6·63	0·51
400	7·50	0·56	7·41	0·56	7·32	0·55	7·23	0·55	7·14	0·54
410	8·06	0·60	7·97	0·59	7·87	0·58	7·78	0·57	7·68	0·57
420	8·66	0·62	8·56	0·61	8·45	0·61	8·35	0·60	8·25	0·59
430	9·28	0·64	9·17	0·63	9·06	0·63	8·95	0·62	8·84	0·61
440	9·92	0·67	9·80	0·66	9·69	0·65	9·57	0·64	9·45	0·64
450	10·59	0·70	10·46	0·69	10·34	0·68	10·21	0·68	10·09	0·67
460	11·29	0·73	11·15	0·72	11·02	0·71	10·89	0·70	10·76	0·69
470	12·02	0·76	11·87	0·75	11·73	0·75	11·59	0·74	11·45	0·73
480	12·78	0·78	12·62	0·78	12·48	0·77	12·33	0·76	12·18	0·75
490	13·56	0·82	13·40	0·81	13·25	0·79	13·09	0·79	12·93	0·78
500	14·38		14·21		14·04		13·88		13·71	

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 1700—1800.

	1700	Diff.	1710	Diff.	1720	Diff.	1730	Diff.	1740	Diff.	1750	Diff.	1760	Diff.	1770	Diff.	1780	Diff.	1790	Diff.	1800	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**10**
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**20**
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	**30**
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	**40**
50	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	**50**
60	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	**60**
70	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	**70**
80	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	**80**
90	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	**90**
100	0·11	0·04	0·11	0·04	0·11	0·04	0·11	0·04	0·11	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	**100**
110	0·15	0·05	0·15	0·05	0·15	0·05	0·15	0·05	0·15	0·04	0·14	0·05	0·14	0·05	0·14	0·05	0·14	0·05	0·14	0·04	0·14	0·04	**110**
120	0·20	0·06	0·20	0·06	0·20	0·05	0·20	0·05	0·19	0·05	0·19	0·05	0·19	0·05	0·19	0·05	0·19	0·05	0·18	0·05	0·18	0·05	**120**
130	0·26	0·06	0·26	0·06	0·25	0·06	0·25	0·06	0·24	0·06	0·24	0·06	0·24	0·06	0·24	0·05	0·24	0·05	0·23	0·05	0·23	0·05	**130**
140	0·32	0·07	0·32	0·07	0·31	0·07	0·31	0·07	0·30	0·07	0·30	0·07	0·30	0·07	0·29	0·07	0·29	0·07	0·28	0·07	0·28	0·07	**140**
150	0·39	0·08	0·39	0·08	0·38	0·08	0·38	0·08	0·37	0·08	0·37	0·08	0·37	0·07	0·36	0·08	0·36	0·07	0·35	0·08	0·35	0·07	**150**
160	0·47	0·09	0·47	0·09	0·46	0·09	0·46	0·09	0·45	0·09	0·45	0·09	0·44	0·09	0·44	0·08	0·43	0·08	0·43	0·08	0·42	0·08	**160**
170	0·56	0·11	0·56	0·10	0·55	0·10	0·55	0·10	0·54	0·10	0·54	0·10	0·53	0·10	0·52	0·10	0·51	0·10	0·51	0·10	0·50	0·10	**170**
180	0·67	0·12	0·66	0·12	0·65	0·12	0·65	0·11	0·64	0·11	0·64	0·11	0·63	0·11	0·62	0·11	0·61	0·11	0·61	0·10	0·60	0·10	**180**
190	0·79	0·13	0·78	0·13	0·77	0·13	0·76	0·12	0·75	0·12	0·75	0·12	0·74	0·12	0·73	0·12	0·72	0·12	0·71	0·12	0·70	0·12	**190**
200	0·92	0·14	0·91	0·14	0·90	0·14	0·88	0·14	0·87	0·14	0·87	0·13	0·86	0·13	0·85	0·13	0 84	0·13	0·83	0·12	0·82	0·12	**200**
210	1·06	0·16	1·05	0·16	1·04	0·15	1·02	0·16	1·01	0·15	1·00	0·15	0·99	0·15	0·98	0·14	0·97	0·14	0·95	0·14	0·94	0·14	**210**
220	1·22	0·17	1·21	0·17	1·19	0·17	1·18	0·17	1·16	0·17	1·15	0·17	1·14	0·16	1·12	0·16	1·11	0·16	1·09	0·16	1·08	0·16	**220**
230	1·39	0·19	1·38	0·18	1·36	0·18	1·35	0·18	1·33	0·18	1·32	0·18	1·30	0·18	1·28	0·18	1·27	0·17	1·25	0·17	1·24	0·17	**230**
240	1·58	0·20	1·56	0·20	1·54	0·20	1·53	0·20	1·51	0·19	1·50	0·19	1·48	0·19	1·46	0·19	1·44	0·19	1·42	0·19	1·41	0·18	**240**
250	1·78	0·22	1·76	0·22	1·74	0·22	1·73	0·21	1·70	0·21	1·69	0·21	1·67	0·20	1·65	0·20	1·63	0·20	1·61	0·20	1·59	0·20	**250**
260	2·00	0·24	1·98	0·23	1·96	0·23	1·94	0·23	1·91	0·23	1·90	0·22	1·87	0·22	1·85	0·22	1·83	0·22	1·81	0·22	1·79	0·21	**260**
270	2·24	0·25	2·21	0·25	2·19	0·25	2·17	0·24	2·14	0·24	2·12	0·24	2·09	0·24	2·07	0·24	2·05	0·23	2·03	0·23	2·00	0·23	**270**
280	2·49	0·27	2·46	0·27	2·44	0·26	2·41	0·26	2·38	0·26	2·36	0·26	2·33	0·26	2·31	0·25	2·28	0·25	2·26	0·24	2·23	0·24	**280**
290	2·76	0·29	2·73	0·29	2·70	0·29	2·67	0·28	2·64	0·28	2·62	0·27	2·59	0·27	2·56	0·27	2·53	0·26	2·50	0·26	2·47	0·26	**290**
300	3·05	0·32	3·02	0·31	2·99	0·31	2·95	0·31	2·92	0·30	2·89	0·30	2·86	0·29	2·83	0·29	2·79	0·29	2·76	0·29	2·73	0·28	**300**
310	3·37	0·33	3·33	0·33	3·30	0·32	3·26	0·32	3·22	0·32	3·19	0·32	3·15	0·32	3·12	0·31	3·08	0·31	3 05	0·30	3·01	0·30	**310**
320	3·70	0·35	3·66	0·35	3·62	0·35	3·58	0·34	3·54	0·34	3·51	0·33	3·47	0·33	3·43	0·33	3·39	0·32	3·35	0·32	3·31	0·32	**320**
330	4·05	0·38	4·01	0·37	3·97	0·37	3·92	0·37	3·88	0·36	3·84	0·36	3·80	0·35	3·76	0·34	3·71	0·34	3·67	0·34	3·63	0·33	**330**
340	4·43	0·39	4·38	0·39	4·34	0·38	4·29	0·38	4·24	0·38	4·20	0·37	4·15	0·36	4·10	0·36	4·05	0·36	4·01	0·35	3·96	0·35	**340**
350	4·82	0·42	4·77	0·41	4·72	0·41	4·67	0·40	4·62	0·40	4·57	0·39	4·51	0·39	4·46	0·39	4·41	0·38	4·36	0·38	4·31	0·37	**350**
360	5·24	0·44	5·18	0·44	5·13	0·43	5·07	0·43	5·02	0·42	4·96	0·42	4·90	0·42	4·85	0·41	4·79	0·41	4·74	0·40	4·68	0·40	**360**
370	5·68	0·46	5·62	0·46	5·56	0·45	5·50	0·45	5·44	0·44	5·38	0·44	5·32	0·44	5·26	0·43	5·20	0·43	5·14	0·42	5·08	0·42	**370**
380	6·14	0·49	6·08	0·48	6·01	0·48	5·95	0·47	5·88	0·47	5·82	0·47	5·76	0·46	5·69	0·45	5·63	0·45	5·56	0·45	5·50	0·44	**380**
390	6·63	0·51	6·56	0·51	6·49	0·50	6·42	0·50	6·35	0·49	6·29	0·48	6·22	0·48	6·14	0·48	6·08	0·47	6·01	0·46	5·94	0·46	**390**
400	7·14	0·54	7·07	0·53	6·99	0·53	6·92	0·52	6·84	0·52	6·77	0·51	6·70	0·50	6·62	0·50	6·55	0·49	6·47	0·49	6·40	0·48	**400**
410	7·68	0·57	7·60	0·56	7·52	0·56	7·44	0·55	7·36	0·54	7·28	0·54	7·20	0·53	7·12	0·52	7·04	0·52	6·96	0·51	6·88	0·50	**410**
420	8·25	0·59	8·16	0·58	8·08	0·57	7·99	0·57	7·90	0·56	7·82	0·56	7·73	0·55	7·64	0·55	7·56	0·54	7·47	0·53	7·38	0·53	**420**
430	8·84	0·61	8·74	0·61	8·65	0·60	8·56	0·59	8·46	0·59	8·38	0·58	8·28	0·58	8·19	0·57	8·10	0·56	8·00	0·56	7·91	0·55	**430**
440	9·45	0·64	9·35	0·64	9·25	0·63	9·15	0·62	9·05	0·62	8·96	0·61	8·86	0·60	8·76	0·60	8·66	0·59	8·56	0·59	8·46	0·58	**440**
450	10·09	0·67	9·99	0·66	9·88	0·66	9·77	0·65	9·67	0·64	9·57	0·63	9·46	0·63	9·36	0·62	9·25	0·61	9·15	0·60	9·04	0·60	**450**
460	10·76	0·69	10·65	0·68	10·54	0·68	10·42	0·67	10·31	0·66	10·20	0·66	10·09	0·65	9·98	0·64	9·86	0·64	9·75	0·63	9·64	0·62	**460**
470	11·45	0·73	11·33	0·72	11·22	0·71	11·09	0·71	10·97	0·70	10·86	0·69	10·74	0·68	10·62	0·67	10·50	0·66	10·38	0·66	10·26	0·65	**470**
480	12·18	0·75	12·05	0·75	12·93	0·73	11·80	0·73	11·67	0·72	11·55	0·71	11·42	0·71	11·29	0·70	11·16	0·70	11·04	0·68	10·91	0·68	**480**
490	12·93	0·78	12·80	0·77	12·66	0·77	12·53	0·76	12·39	0·76	12·26	0·75	12·13	0·73	11·99	0·73	11·86	0·72	11·72	0·72	11·59	0·71	**490**
500	13·71		13·57		13·43		13·29		13·15		13·01		12·86		12·72		12·58		12·44		12·30		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 1800—1900.

	1800	Diff.	1810	Diff.	1820	Diff.	1830	Diff.	1840	Diff.	1850	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
60	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02
70	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01
80	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02
90	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03
100	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·03	0·10	0·03	0·10	0·03
110	0·14	0·04	0·14	0·04	0·14	0·04	0·13	0·04	0·13	0·04	0·13	0·04
120	0·18	0·05	0·18	0·05	0·18	0·04	0·17	0·05	0·17	0·05	0·17	0·05
130	0·23	0·05	0·23	0·05	0·22	0·05	0·22	0·05	0·22	0·05	0·22	0·05
140	0·28	0·07	0·28	0·07	0·27	0·07	0·27	0·07	0·27	0·06	0·27	0·06
150	0·35	0·07	0·35	0·07	0·34	0·07	0·34	0·07	0·33	0·07	0·33	0·07
160	0·42	0·08	0·42	0·08	0·41	0·08	0·41	0·08	0·40	0·08	0·40	0·08
170	0·50	0·10	0·50	0·09	0·49	0·10	0·49	0·09	0·48	0·09	0·48	0·09
180	0·60	0·10	0·59	0·10	0·59	0·10	0·58	0·10	0·57	0·10	0·57	0·10
190	0·70	0·12	0·69	0·12	0·69	0·11	0·68	0·11	0·67	0·11	0·67	0·11
200	0·82	0·12	0·81	0·12	0·80	0·12	0·79	0·12	0·78	0·12	0·78	0·12
210	0·94	0·14	0·93	0·14	0·92	0·14	0·91	0·14	0·90	0·14	0·90	0·13
220	1·08	0·16	1·07	0·16	1·06	0·16	1·05	0·15	1·04	0·15	1·03	0·15
230	1·24	0·17	1·23	0·17	1·22	0·16	1·20	0·17	1·19	0·16	1·18	0·16
240	1·41	0·18	1·40	0·18	1·38	0·18	1·37	0·18	1·35	0·18	1·34	0·17
250	1·59	0·20	1·58	0·19	1·56	0·19	1·55	0·19	1·53	0·19	1·51	0·19
260	1·79	0·21	1·77	0·21	1·75	0·21	1·74	0·20	1·72	0·20	1·70	0·20
270	2·00	0·23	1·98	0·23	1·96	0·22	1·94	0·22	1·92	0·22	1·90	0·22
280	2·23	0·24	2·21	0·24	2·18	0·24	2·16	0·24	2·14	0·23	2·12	0·23
290	2·47	0·26	2·45	0·25	2·42	0·26	2·40	0·25	2·37	0·25	2·35	0·25
300	2·73	0·28	2·70	0·28	2·68	0·27	2·65	0·27	2·62	0·27	2·60	0·26
310	3·01	0·30	2·98	0·30	2·95	0·29	2·92	0·29	2·89	0·29	2·86	0·29
320	3·31	0·32	3·28	0·31	3·24	0·31	3·21	0·31	3·18	0·30	3·15	0·30
330	3·63	0·33	3·59	0·33	3·55	0·33	3·52	0·32	3·48	0·32	3·45	0·31
340	3·96	0·35	3·92	0·35	3·88	0·34	3·84	0·34	3·80	0·34	3·76	0·33
350	4·31	0·37	4·27	0·37	4·22	0·37	4·18	0·36	4·14	0·36	4·09	0·36
360	4·68	0·40	4·64	0·39	4·59	0·39	4·54	0·39	4·50	0·38	4·45	0·38
370	5·08	0·42	5·03	0·41	4·98	0·41	4·93	0·41	4·88	0·40	4·83	0·40
380	5·50	0·44	5·44	0·44	5·39	0·43	5·34	0·42	5·28	0·42	5·23	0·41
390	5·94	0·46	5·88	0·46	5·82	0·45	5·76	0·44	5·70	0·44	5·64	0·44
400	6·40	0·48	6·34	0·47	6·27	0·47	6·20	0·47	6·14	0·46	6·08	0·46
410	6·88	0·50	6·81	0·50	6·74	0·49	6·67	0·49	6·60	0·48	6·54	0·48
420	7·38	0·53	7·31	0·52	7·23	0·52	7·16	0·51	7·08	0·51	7·02	0·50
430	7·91	0·55	7·83	0·55	7·75	0·54	7·67	0·54	7·59	0·53	7·52	0·52
440	8·46	0·58	8·38	0·57	8·29	0·57	8·21	0·56	8·12	0·56	8·04	0·55
450	9 04	0·60	8·95	0·59	8·86	0·59	8·77	0·58	8·68	0·58	8·59	0·57
460	9·64	0·62	9·54	0·62	9·45	0·61	9·35	0·61	9·26	0·60	9·16	0·60
470	10·26	0·65	10·16	0·65	10·06	0·64	9·96	0·63	9·86	0·62	9·76	0·62
480	10·91	0·68	10·81	0·67	10·70	0·66	10·59	0·66	10·48	0·65	10·38	0·64
490	11·59	0·71	11·48	0·70	11·36	0·70	11·25	0·69	11·13	0·69	11·02	0·68
500	12·30		12·18		12·06		11·94		11·82		11·70	

1860	Diff.	1870	Diff.	1880	Diff.	1890	Diff.	1900	Diff.	
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**10**
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**20**
0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	**30**
0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	**40**
0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	**50**
0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**60**
0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	**70**
0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	**80**
0·07	0·03	0·07	0·03	0·07	0·02	0·07	0·02	0·07	0·02	**90**
0·10	0·03	0·10	0·03	0·09	0·03	0·09	0·03	0·09	0·03	**100**
0·13	0·04	0·13	0·04	0·12	0·04	0·12	0·04	0·12	0·04	**110**
0·17	0·04	0·17	0·04	0·16	0·05	0·16	0·04	0·16	0·04	**120**
0·21	0·05	0·21	0·05	0·21	0·05	0·20	0·05	0·20	0·05	**130**
0·26	0·06	0·26	0·06	0·26	0·06	0·25	0·06	0·25	0·06	**140**
0·32	0·07	0·32	0·07	0·32	0·07	0·31	0·07	0·31	0·07	**150**
0·39	0·08	0·39	0·08	0·39	0·07	0·38	0·08	0·38	0·07	**160**
0·47	0·09	0·47	0·09	0·46	0·09	0·46	0·09	0·45	0·09	**170**
0·56	0·10	0·56	0·09	0·55	0·09	0·55	0·09	0·54	0·09	**180**
0·66	0·11	0·65	0·11	0·64	0·11	0·64	0·10	0·63	0·10	**190**
0·77	0·12	0·76	0·12	0·75	0·12	0·74	0·12	0·73	0·12	**200**
0·89	0·13	0·88	0·13	0·87	0·13	0·86	0·13	0·85	0·13	**210**
1·02	0·15	1·01	0·15	1·00	0·14	0·99	0·14	0·98	0·14	**220**
1·17	0·16	1·16	0·15	1·14	0·16	1 13	0·15	1·12	0·15	**230**
1·33	0·17	1·31	0·17	1·30	0·17	1 28	0·17	1·27	0·16	**240**
1·50	0·18	1·48	0·18	1·47	0·18	1·45	0·18	1·43	0·18	**250**
1·68	0·20	1·66	0·20	1·65	0·19	1·63	0·19	1·61	0·19	**260**
1·88	0·21	1·86	0·21	1·84	0·21	1·82	0·21	1·80	0·20	**270**
2·09	0·23	2·07	0·23	2·05	0·22	2·03	0·22	2·00	0·22	**280**
2·32	0·25	2·30	0·24	2·27	0·24	2·25	0·24	2·22	0·24	**290**
2·57	0·26	2·54	0·26	2·51	0·26	2·49	0·25	2·46	0·25	**300**
2·83	0·28	2·80	0·28	2·77	0·28	2·74	0·27	2·71	0·27	**310**
3·11	0·30	3·08	0·29	3·05	0·29	3·01	0·29	2·98	0·28	**320**
3·41	0·31	3·37	0·31	3·34	0·30	3·30	0·30	3·26	0·30	**330**
3·72	0·33	3·68	0·33	3·64	0·32	3·60	0·32	3 56	0·32	**340**
4·05	0·35	4·01	0·35	3·96	0·35	3·92	0·35	3·88	0·34	**350**
4·40	0·38	4·36	0·37	4·31	0·37	4·27	0·36	4·22	0·36	**360**
4·78	0·39	4·73	0·39	4·68	0·38	4·63	0·38	4·58	0·37	**370**
5·17	0·41	5·12	0·40	5·06	0·40	5·01	0·39	4·95	0·39	**380**
5·58	0·43	5·52	0·43	5·46	0·42	5·40	0·42	5·34	0·41	**390**
6·01	0·45	5·95	0·45	5·88	0·45	5 82	0·44	5·75	0·44	**400**
6·46	0·48	6·40	0·47	6·33	0·47	6·26	0·46	6·19	0·46	**410**
6·94	0·50	6·87	0·49	6·80	0·48	6·72	0·48	6·65	0·47	**420**
7·44	0·52	7·36	0·51	7·28	0·51	7·20	0·50	7·12	0·50	**430**
7·96	0·54	7·87	0·54	7·79	0·53	7·70	0·53	7·62	0·52	**440**
8·50	0·56	8·41	0·56	8·32	0·55	8·23	0·55	8·14	0·54	**450**
9·06	0·59	8·97	0·58	8·87	0·58	8·78	0·57	8·68	0·57	**460**
9·65	0·62	9·55	0·61	9·45	0·60	9·35	0·60	9·25	0·59	**470**
10·27	0·64	10·16	0·63	10·05	0·63	9·95	0·62	9·84	0·61	**480**
10·91	0·66	10·79	0·66	10·68	0·65	10·57	0·64	10·45	0·64	**490**
11·57		11·45		11·33		11·21		11·09		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 1900—2000.

	1900	Diff.	1910	Diff.	1920	Diff.	1930	Diff.	1940	Diff.	1950	Diff.	1960	Diff.	1970	Diff.	1980	Diff.	1990	Diff.	2000	Diff.	
0	0·00		0·00		0·00		0·00		0·00		0·00		0·00		0·00		0·00		0·00		0·00		**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	40
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
60	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	60
70	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	70
80	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	80
90	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	90
100	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	**100**
110	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	110
120	0·16	0·04	0·16	0·04	0·16	0·04	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·04	0·15	0·04	0·14	0·03	0·14	0·03	0·14	0·03	120
130	0·20	0·04	0·20	0·04	0·20	0·04	0·19	0·04	0·19	0·04	0·19	0·04	0·19	0·04	0·19	0·04	0·18	0·04	0·18	0·04	0·18	0·04	130
140	0·25	0·05	0·25	0·05	0·25	0·05	0·24	0·05	0·24	0·05	0·24	0·05	0·24	0·05	0·24	0·05	0·23	0·05	0·23	0·05	0·23	0·05	140
150	0·31	0·06	0·31	0·06	0·30	0·05	0·30	0·06	0·30	0·06	0·30	0·06	0·29	0·05	0·29	0·05	0·29	0·06	0·28	0·05	0·28	0·05	150
160	0·38	0·07	0·38	0·07	0·37	0·07	0·37	0·07	0·36	0·06	0·36	0·06	0·36	0·07	0·35	0·06	0·35	0·06	0·34	0·06	0·34	0·06	160
170	0·45	0·07	0·45	0·07	0·44	0·07	0·44	0·07	0·43	0·07	0·43	0·07	0·43	0·07	0·42	0·07	0·42	0·07	0·41	0·07	0·41	0·07	170
180	0·54	0·09	0·53	0·08	0·53	0·09	0·52	0·08	0·51	0·08	0·51	0·08	0·50	0·07	0·50	0·08	0·49	0·07	0·49	0·08	0·48	0·07	180
190	0·63	0·09	0·62	0·09	0·62	0·09	0·61	0·09	0·60	0·09	0·60	0·09	0·59	0·09	0·59	0·09	0·58	0·09	0·58	0·09	0·57	0·09	190
200	0·73	0·10	0·72	0·10	0·72	0·10	0·71	0·10	0·70	0·10	0·70	0·10	0·69	0·10	0·68	0·09	0·67	0·09	0·67	0·09	0·66	0·09	**200**
210	0·85	0·12	0·84	0·12	0·83	0·11	0·83	0·12	0·81	0·11	0·81	0·11	0·80	0·11	0·79	0·11	0·78	0·11	0·78	0·11	0·77	0·11	210
220	0·98	0·13	0·97	0·13	0·96	0·13	0·95	0·12	0·94	0·13	0·93	0·12	0·92	0·12	0·91	0·12	0·90	0·12	0·89	0·11	0·88	0·11	220
230	1·12	0·14	1·11	0·14	1·10	0·14	1·09	0·14	1·08	0·14	1·07	0·14	1·05	0·13	1·04	0·13	1·03	0·13	1·02	0·13	1·01	0·13	230
240	1·27	0·15	1·26	0·15	1·24	0·14	1·23	0·14	1·22	0·14	1·21	0·14	1·19	0·14	1·18	0·14	1·17	0·14	1·15	0·13	1·14	0·13	240
250	1·43	0·16	1·42	0·16	1·40	0·16	1·39	0·16	1·38	0·16	1·36	0·15	1·34	0·15	1·33	0·15	1·32	0·15	1·30	0·15	1·29	0·15	250
260	1·61	0·18	1·59	0·17	1·58	0·18	1·56	0·17	1·55	0·17	1·53	0·17	1·51	0·17	1·50	0·17	1·48	0·16	1·47	0·17	1·45	0·16	260
270	1·80	0·19	1·78	0·19	1·76	0·18	1·75	0·19	1·73	0·18	1·71	0·18	1·69	0·18	1·68	0·18	1·66	0·18	1·64	0·17	1·62	0·17	270
280	2·00	0·20	1·98	0·20	1·96	0·20	1·95	0·20	1·92	0·19	1·91	0·20	1·89	0·20	1·87	0·19	1·85	0·19	1·83	0·19	1·81	0·19	280
290	2·22	0·22	2·20	0·22	2·18	0·22	2·16	0·21	2·13	0·21	2·12	0·21	2·10	0·21	2·07	0·20	2·05	0·20	2·03	0·20	2·01	0·20	290
300	2·46	0·24	2·44	0·24	2·41	0·23	2·39	0·23	2·36	0·23	2·34	0·22	2·32	0·22	2·29	0·22	2·27	0·22	2·25	0·22	2·22	0·21	**300**
310	2·71	0·25	2·69	0·25	2·66	0·25	2·63	0·24	2·61	0·25	2·58	0·24	2·55	0·23	2·53	0·24	2·50	0·23	2·48	0·23	2·45	0·23	310
320	2·98	0·27	2·95	0·26	2·92	0·26	2·89	0·26	2·87	0·26	2·84	0·26	2·80	0·25	2·78	0·25	2·75	0·25	2·72	0·24	2·69	0·24	320
330	3·26	0·28	3·23	0·28	3·20	0·28	3·17	0·28	3·14	0·27	3·11	0·27	3·07	0·27	3·04	0·26	3·01	0·26	2·98	0·26	2·95	0·26	330
340	3·56	0·30	3·53	0·30	3·49	0·29	3·46	0·29	3·43	0·29	3·39	0·28	3·36	0·29	3·32	0·28	3·29	0·28	3·25	0·27	3·22	0·27	340
350	3·88	0·32	3·84	0·31	3·81	0·32	3·77	0·31	3·74	0·31	3·70	0·31	3·66	0·30	3·62	0·30	3·58	0·29	3·54	0·29	3·51	0·29	350
360	4·22	0·34	4·18	0·34	4·14	0·33	4·10	0·33	4·06	0·32	4·02	0·32	3·98	0·32	3·94	0·32	3·89	0·31	3·85	0·31	3·81	0·30	360
370	4·58	0·36	4·53	0·35	4·49	0·35	4·45	0·35	4·40	0·34	4·36	0·34	4·32	0·34	4·27	0·33	4·22	0·33	4·18	0·33	4·14	0·33	370
380	4·95	0·37	4·90	0·37	4·86	0·37	4·81	0·36	4·76	0·36	4·72	0·36	4·67	0·35	4·62	0·35	4·57	0·35	4·52	0·34	4·48	0·34	380
390	5·34	0·39	5·29	0·39	5·24	0·38	5·19	0·38	5·14	0·38	5·09	0·37	5·04	0·37	4·98	0·36	4·94	0·37	4·88	0·36	4·84	0·36	390
400	5·75	0·41	5·70	0·41	5·64	0·40	5·59	0·40	5·53	0·39	5·48	0·39	5·43	0·39	5·37	0·39	5·32	0·38	5·26	0·38	5·21	0·37	**400**
410	6·19	0·44	6·13	0·43	6·07	0·43	6·01	0·42	5·95	0·42	5·90	0·42	5·84	0·41	5·78	0·41	5·72	0·40	5·66	0·40	5·60	0·39	410
420	6·65	0·46	6·58	0·45	6·52	0·45	6·46	0·45	6·39	0·44	6·34	0·44	6·27	0·43	6·21	0·43	6·14	0·42	6·08	0·42	6·02	0·42	420
430	7·12	0·47	7·05	0·47	6·99	0·47	6·92	0·46	6·85	0·46	6·79	0·45	6·72	0·45	6·65	0·44	6·58	0·44	6·52	0·44	6·45	0·43	430
440	7·62	0·50	7·55	0·50	7·48	0·49	7·40	0·48	7·33	0·48	7·26	0·47	7·19	0·47	7·11	0·46	7·04	0·46	6·98	0·46	6·90	0·45	440
450	8·14	0·52	8·06	0·51	7·99	0·51	7·91	0·51	7·83	0·50	7·75	0·49	7·68	0·49	7·60	0·49	7·52	0·48	7·45	0·47	7·37	0·47	450
460	8·68	0·54	8·60	0·54	8·52	0·53	8·44	0·53	8·35	0·52	8·27	0·52	8·19	0·51	8·11	0·51	8·02	0·50	7·94	0·49	7·86	0·49	460
470	9·25	0·57	9·16	0·56	9·07	0·55	8·99	0·55	8·90	0·55	8·82	0·55	8·72	0·53	8·64	0·53	8·55	0·53	8·46	0·52	8·38	0·52	470
480	9·84	0·59	9·74	0·58	9·65	0·58	9·56	0·57	9·47	0·57	9·38	0·56	9·28	0·56	9·19	0·55	9·10	0·55	9·00	0·54	8·91	0·53	480
490	10·45	0·61	10·35	0·61	10·25	0·60	10·16	0·60	10·06	0·59	9·96	0·58	9·86	0·58	9·76	0·57	9·66	0·56	9·56	0·56	9·46	0·55	490
500	11·09	0·64	10·99	0·64	10·88	0·63	10·78	0·62	10·67	0·61	10·57	0·61	10·46	0·60	10·36	0·60	10·25	0·59	10·15	0·59	10·04	0·58	**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 2000 — 2200.

	2000	Diff.	2020	Diff.	2040	Diff.	2060	Diff.	2080	Diff.	2100	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
60	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
70	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
80	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02
90	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02
100	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·02	0·08	0·02	0·08	0·02
110	0·11	0·03	0·11	0·03	0·11	0·03	0·10	0·03	0·10	0·03	0·10	0·03
120	0·14	0·04	0·14	0·04	0·14	0·03	0·13	0·04	0·13	0·04	0·13	0·04
130	0·18	0·05	0·18	0·05	0·17	0·05	0·17	0·05	0·17	0·04	0·17	0·04
140	0·23	0·05	0·23	0·05	0·22	0·05	0·22	0·05	0·21	0·05	0·21	0·05
150	0·28	0·06	0·28	0·05	0·27	0·06	0·27	0·05	0·26	0·06	0·26	0·05
160	0·34	0·07	0·33	0·07	0·33	0·06	0·32	0·07	0·32	0·06	0·31	0·06
170	0·41	0·07	0·40	0·07	0·39	0·07	0·39	0·07	0·38	0·07	0·37	0·07
180	0·48	0·09	0·47	0·09	0·46	0·09	0·46	0·08	0·45	0·08	0·44	0·08
190	0·57	0·09	0·56	0·09	0·55	0·09	0·54	0·09	0·53	0·09	0·52	0·09
200	0·66	0·11	0·65	0·11	0·64	0·10	0·63	0·10	0·62	0·09	0·61	0·09
210	0·77	0·11	0·76	0·11	0·74	0·11	0·73	0·11	0·71	0·11	0·70	0·11
220	0·88	0·13	0·87	0·12	0·85	0·12	0·84	0·12	0·82	0·12	0·81	0·11
230	1·01	0·13	0·99	0·13	0·97	0·13	0·96	0·12	0·94	0·12	0·92	0·13
240	1·14	0·15	1·12	0·15	1·10	0·15	1·08	0·14	1·06	0·14	1·05	0·13
250	1·29	0·16	1·27	0·16	1·25	0·15	1·22	0·16	1·20	0·15	1·18	0·14
260	1·45	0·17	1·43	0·17	1·40	0·17	1·38	0·16	1·35	0·16	1·32	0·16
270	1·62	0·19	1·60	0·18	1·57	0·18	1·54	0·18	1·51	0·18	1·48	0·18
280	1·81	0·20	1·78	0·20	1·75	0·19	1·72	0·19	1·69	0·18	1·66	0·18
290	2·01	0·21	1·98	0·21	1·94	0·20	1·91	0·20	1·87	0·20	1·84	0·19
300	2·22	0·23	2·19	0·22	2·14	0·22	2·11	0·21	2·07	0·21	2·03	0·21
310	2·45	0·24	2·41	0·24	2·36	0·24	2·32	0·23	2·28	0·23	2·24	0·22
320	2·69	0·26	2·65	0·25	2·60	0·25	2·55	0·25	2·51	0·24	2·46	0·24
330	2·95	0·27	2·90	0·27	2·85	0·26	2·80	0·26	2·75	0·25	2·70	0·25
340	3·22	0·29	3·17	0·28	3·11	0·28	3·06	0·27	3·00	0·27	2·95	0·26
350	3·51	0·30	3·45	0·30	3·39	0·29	3·33	0·29	3·27	0·28	3·21	0·28
360	3·81	0·33	3·75	0·32	3·68	0·32	3·62	0·31	3·55	0·30	3·49	0·30
370	4·14	0·34	4·07	0·33	4·00	0·33	3·93	0·32	3·85	0·32	3·79	0·31
380	4·48	0·36	4·40	0·35	4·33	0·34	4·25	0·33	4·17	0·33	4·10	0·32
390	4·84	0·37	4·75	0·37	4·67	0·36	4·58	0·36	4·50	0·35	4·42	0·35
400	5·21	0·39	5·12	0·39	5·03	0·38	4·94	0·38	4·85	0·37	4·77	0·36
410	5·60	0·42	5·51	0·41	5·41	0·40	5·32	0·39	5·22	0·39	5·13	0·38
420	6·02	0·43	5·92	0·42	5·81	0·42	5·71	0·41	5·61	0·40	5·51	0·39
430	6·45	0·45	6·34	0·44	6·23	0·44	6·12	0·43	6·01	0·42	5·90	0·42
440	6·90	0·47	6·78	0·46	6·67	0·45	6·55	0·45	6·43	0·44	6·32	0·43
450	7·37	0·49	7·24	0·49	7·12	0·47	7·00	0·46	6·87	0·46	6·75	0·45
460	7·86	0·52	7·73	0·51	7·59	0·50	7·46	0·49	7·33	0·48	7·20	0·47
470	8·38	0·53	8·24	0·52	8·09	0·52	7·95	0·51	7·81	0·50	7·67	0·49
480	8·91	0·55	8·76	0·54	8·61	0·53	8·46	0·52	8·31	0·51	8·16	0·51
490	9·46	0·58	9·30	0·57	9·14	0·56	8·98	0·55	8·82	0·54	8·67	0·53
500	10·04		9·87		9·70		9·53		9·36		9·20	

2120	Diff.	2140	Diff.	2160	Diff.	2180	Diff.	2200	Diff.	
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
0 00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	50
0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	60
0·02	0·02	0·02	0·02	0 02	0·02	0·02	0·02	0·02	0·02	70
0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	80
0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	90
0·07	0·03	0·07	0·03	0·07	0·02	0·07	0·02	0·07	0·02	**100**
0 10	0·03	0·10	0·03	0·09	0·03	0·09	0·03	0·09	0·03	110
0·13	0·03	0·13	0·03	0·12	0·04	0·12	0·03	0·12	0·03	120
0·16	0·04	0·16	0·04	0·16	0·04	0·15	0·04	0·15	0·04	130
0·20	0·05	0·20	0·05	0·20	0·04	0·19	0·05	0 19	0·04	140
0·25	0·05	0·25	0·05	0·24	0·05	0·24	0·05	0·23	0·05	150
0·30	0·06	0·30	0·05	0·29	0·06	0·29	0·05	0·28	0·05	160
0·36	0·07	0·35	0·07	0·35	0·07	0·34	0·07	0·33	0·07	170
0·43	0·08	0·42	0·08	0·42	0·07	0·41	0·07	0·40	0·07	180
0·51	0·08	0·50	0·08	0·49	0·08	0·48	0·08	0·47	0·08	190
0·59	0·10	0·58	0·09	0 57	0·09	0·56	0·08	0·55	0·08	**200**
0·69	0·10	0·67	0·10	0 66	0·10	0·64	0·10	0·63	0·10	210
0·79	0·11	0·77	0·11	0·76	0·11	0·74	0·11	0·73	0·10	220
0·90	0·13	0·88	0·13	0·87	0·12	0·85	0·12	0·83	0·12	230
1·03	0·13	1·01	0·13	0·99	0·12	0·97	0·12	0·95	0·12	240
1·16	0·14	1·14	0·14	1·11	0·14	1·09	0·14	1·07	0·13	250
1·30	0·15	1·28	0·15	1·25	0·15	1·23	0·14	1·20	0·14	260
1·45	0·17	1·43	0·16	1·40	0·16	1·37	0·16	1·34	0·16	270
1·62	0·18	1 59	0·18	1·56	0·17	1·53	0·17	1·50	0·16	280
1·80	0·19	1·77	0·19	1·73	0·19	1·70	0·18	1·66	0·18	290
1·99	0·21	1·96	0·20	1·92	0·19	1·88	0·19	1·84	0·19	**300**
2·20	0·21	2·16	0·21	2·11	0·21	2·07	0·21	2·03	0·20	310
2·41	0·23	2·37	0·23	2·32	0·22	2·28	0·22	2·23	0·21	320
2·64	0·25	2·60	0·24	2·54	0·24	2·50	0·23	2·44	0·23	330
2·89	0·26	2·84	0·25	2·78	0·25	2·73	0·24	2·67	0·24	340
3·15	0·27	3 09	0·26	3·03	0·26	2·97	0·26	2·91	0·25	350
3·42	0·29	3·35	0·29	3·29	0·28	3·23	0·27	3·16	0·27	360
3·71	0·31	3·64	0·30	3·57	0·29	3·50	0·29	3·43	0·28	370
4·02	0·32	3·94	0·32	3·86	0·31	3·79	0·30	3·71	0·30	380
4·34	0·34	4·26	0·33	4·17	0·33	4·09	0·32	4·01	0·31	390
4·68	0·35	4·59	0·35	4·50	0·34	4·41	0·33	4·32	0·33	**400**
5·03	0·37	4·94	0·36	4·84	0·36	4·74	0·35	4·65	0·34	410
5·40	0·39	5·30	0·38	5·20	0·37	5·09	0·37	4·99	0·36	420
5·79	0·41	5·68	0·40	5·57	0·39	5·46	0·39	5·35	0·38	430
6·20	0·42	6·08	0·42	5·96	0·41	5·85	0·40	5·73	0·39	440
6·62	0·44	6·50	0·43	6·37	0·42	6·25	0·41	6·12	0·41	450
7·06	0·47	6·93	0·46	6·79	0·45	6·66	0·44	6·53	0·43	460
7·53	0·48	7·39	0·47	7·24	0·47	7·10	0·46	6·96	0·45	470
8·01	0·50	7·86	0·49	7·71	0·48	7·56	0·47	7·41	0·46	480
8·51	0·52	8·35	0·51	8·19	0·50	8·03	0·49	7·87	0·48	490
9·03		8·86		8·69		8·52		8·35		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 2200—2400.

	2200	Diff.	2220	Diff.	2240	Diff.	2260	Diff.	2280	Diff.	2300	Diff.	2320	Diff.	2340	Diff.	2360	Diff.	2380	Diff.	2400	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
60	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	60
70	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	70
80	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	80
90	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	90
100	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	**100**
110	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·02	0·09	0·02	0·09	0·02	0·08	0·03	0·08	0·03	0·08	0·02	0·08	0·02	0·08	0·02	110
120	0·12	0·03	0·12	0·03	0·12	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·10	0·03	0·10	0·03	0·10	0·03	120
130	0·15	0·04	0·15	0·04	0·15	0·03	0·14	0·04	0·14	0·04	0·14	0·04	0·14	0·03	0·14	0·03	0·13	0·04	0·13	0·03	0·13	0·03	130
140	0·19	0·04	0·19	0·04	0·18	0·04	0·18	0·04	0·18	0·04	0·18	0·04	0·17	0·04	0·17	0·04	0·17	0·04	0·16	0·04	0·16	0·04	140
150	0·23	0·05	0·23	0·05	0·22	0·05	0·22	0·05	0·22	0·04	0·22	0·04	0·21	0·04	0·21	0·04	0·21	0·04	0·20	0·04	0·20	0·04	150
160	0·28	0·05	0·28	0·05	0·27	0·05	0·27	0·05	0·26	0·05	0·26	0·05	0·25	0·05	0·25	0·05	0·25	0·04	0·24	0·05	0·24	0·04	160
170	0·33	0·07	0·33	0·06	0·32	0·06	0·32	0·06	0·31	0·06	0·31	0·06	0·30	0·06	0·30	0·05	0·29	0·05	0·29	0·05	0·28	0·05	170
180	0·40	0·07	0·39	0·07	0·38	0·07	0·38	0·07	0·37	0·07	0·37	0·06	0·36	0·06	0·35	0·06	0·34	0·07	0·34	0·06	0·33	0·06	180
190	0·47	0·08	0·46	0·08	0·45	0·08	0·45	0·07	0·44	0·07	0·43	0·07	0·42	0·07	0·41	0·07	0·41	0·07	0·40	0·07	0·39	0·07	190
200	0·55	0·08	0·54	0·08	0·53	0·08	0·52	0·08	0·51	0·08	0·50	0·08	0·49	0·08	0·48	0·08	0·48	0·07	0·47	0·07	0·46	0·07	**200**
210	0·63	0·10	0·62	0·10	0·61	0·09	0·60	0·09	0·59	0·09	0·58	0·09	0·57	0·09	0·56	0·09	0·55	0·08	0·54	0·08	0·53	0·08	210
220	0·73	0·10	0·72	0·10	0·70	0·10	0·69	0·10	0·68	0·10	0·67	0·10	0·66	0·09	0·65	0·09	0·63	0·09	0·62	0·09	0·61	0·09	220
230	0·83	0·12	0·82	0·11	0·80	0·11	0·79	0·11	0·78	0·11	0·77	0·11	0·75	0·11	0·74	0·10	0·72	0·10	0·71	0·10	0·70	0·10	230
240	0·95	0·12	0·93	0·12	0·91	0·12	0·90	0·12	0·89	0·11	0·88	0·11	0·86	0·11	0·84	0·11	0·82	0·11	0·81	0·11	0·80	0·10	240
250	1·07	0·13	1·05	0·13	1·03	0·13	1·02	0·12	1·00	0·12	0·99	0·12	0·97	0·12	0·95	0·12	0·93	0·12	0·92	0·11	0·90	0·11	250
260	1·20	0·14	1·18	0·14	1·16	0·14	1·14	0·14	1·12	0·14	1·11	0·13	1·09	0·12	1·07	0·12	1·05	0·12	1·03	0·12	1·01	0·12	260
270	1·34	0·16	1·32	0·15	1·30	0·15	1·28	0·15	1·26	0·14	1·24	0·14	1·21	0·14	1·19	0·14	1·17	0·14	1·15	0·13	1·13	0·13	270
280	1·50	0·16	1·47	0·16	1·45	0·16	1·43	0·15	1·40	0·16	1·38	0·15	1·35	0·15	1·33	0·15	1·31	0·14	1·28	0·15	1·26	0·14	280
290	1·66	0·18	1·63	0·18	1·61	0·17	1·58	0·17	1·56	0·16	1·53	0·17	1·50	0·17	1·48	0·16	1·45	0·16	1·43	0·15	1·40	0·15	290
300	1·84	0·19	1·81	0·19	1·78	0·19	1·75	0·18	1·72	0·18	1·70	0·17	1·67	0·17	1·64	0·17	1·61	0·16	1·58	0·16	1·55	0·16	**300**
310	2·03	0·20	2·00	0·20	1·97	0·19	1·93	0·20	1·90	0·19	1·87	0·19	1·84	0·18	1·81	0·18	1·77	0·18	1·74	0·18	1·71	0·17	310
320	2·23	0·21	2·20	0·21	2·16	0·21	2·13	0·20	2·09	0·20	2·06	0·19	2·02	0·19	1·99	0·19	1·95	0·19	1·92	0·18	1·88	0·18	320
330	2·44	0·23	2·41	0·22	2·37	0·22	2·33	0·21	2·29	0·21	2·25	0·21	2·21	0·21	2·18	0·20	2·14	0·19	2·10	0·19	2·06	0·19	330
340	2·67	0·24	2·63	0·23	2·59	0·23	2·54	0·23	2·50	0·23	2·46	0·22	2·42	0·21	2·38	0·21	2·33	0·21	2·29	0·21	2·25	0·20	340
350	2·91	0·25	2·86	0·25	2·82	0·24	2·77	0·24	2·73	0·23	2·68	0·23	2·63	0·23	2·59	0·22	2·54	0·22	2·50	0·21	2·45	0·21	350
360	3·16	0·27	3·11	0·27	3·06	0·26	3·01	0·26	2·96	0·25	2·91	0·25	2·86	0·25	2·81	0·24	2·76	0·24	2·71	0·23	2·66	0·23	360
370	3·43	0·28	3·38	0·28	3·32	0·27	3·27	0·27	3·21	0·27	3·16	0·26	3·11	0·25	3·05	0·25	3·00	0·25	2·94	0·25	2·89	0·24	370
380	3·71	0·30	3·66	0·29	3·59	0·29	3·54	0·28	3·48	0·28	3·42	0·27	3·36	0·27	3·30	0·26	3·25	0·26	3·19	0·25	3·13	0·25	380
390	4·01	0·31	3·95	0·30	3·88	0·30	3·82	0·30	3·76	0·29	3·69	0·29	3·63	0·28	3·56	0·28	3·51	0·27	3·44	0·27	3·38	0·26	390
400	4·32	0·33	4·25	0·32	4·18	0·32	4·12	0·31	4·05	0·31	3·98	0·30	3·91	0·30	3·84	0·29	3·78	0·28	3·71	0·28	3·64	0·28	**400**
410	4·65	0·34	4·57	0·34	4·50	0·33	4·43	0·33	4·36	0·32	4·28	0·32	4·21	0·31	4·13	0·31	4·06	0·30	3·99	0·30	3·92	0·29	410
420	4·99	0·36	4·91	0·36	4·83	0·35	4·76	0·34	4·68	0·34	4·60	0·33	4·52	0·33	4·44	0·32	4·36	0·32	4·29	0·31	4·21	0·30	420
430	5·35	0·38	5·27	0·37	5·18	0·37	5·10	0·36	5·02	0·35	4·93	0·35	4·85	0·34	4·76	0·34	4·68	0·33	4·60	0·32	4·51	0·32	430
440	5·73	0·39	5·64	0·39	5·55	0·38	5·46	0·37	5·37	0·37	5·28	0·36	5·19	0·36	5·10	0·35	5·01	0·34	4·92	0·34	4·83	0·33	440
450	6·12	0·41	6·03	0·40	5·93	0·40	5·83	0·39	5·74	0·38	5·64	0·38	5·55	0·37	5·45	0·37	5·35	0·36	5·26	0·35	5·16	0·35	450
460	6·53	0·43	6·43	0·42	6·33	0·41	6·22	0·41	6·12	0·40	6·02	0·40	5·92	0·39	5·82	0·38	5·71	0·38	5·61	0·37	5·51	0·36	460
470	6·96	0·45	6·85	0·44	6·74	0·43	6·63	0·43	6·52	0·42	6·42	0·41	6·31	0·40	6·20	0·40	6·09	0·39	5·98	0·38	5·87	0·38	470
480	7·41	0·46	7·29	0·46	7·17	0·45	7·06	0·44	6·94	0·44	6·83	0·43	6·71	0·42	6·60	0·41	6·48	0·41	6·36	0·40	6·25	0·39	480
490	7·87	0·48	7·75	0·47	7·62	0·47	7·50	0·46	7·38	0·45	7·26	0·44	7·13	0·44	7·01	0·43	6·89	0·42	6·76	0·42	6·64	0·41	490
500	8·35		8·22		8·09		7·96		7·83		7·70		7·57		7·44		7·31		7·18		7·05		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 2400—2600.

	2400	Diff.	2420	Diff.	2440	Diff.	2460	Diff.	2480	Diff.	2500	Diff.	2520	Diff.	2540	Diff.	2560	Diff.	2580	Diff.	2600	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
60	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	60
70	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	70
80	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	80
90	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	90
100	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	**100**
110	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	110
120	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·02	0·10	0·02	0·10	0·02	0·09	0·03	0·09	0·03	0·09	0·02	0·09	0·02	0·09	0·02	120
130	0·13	0·03	0·13	0·03	0·13	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·11	0·03	0·11	0·03	0·11	0·03	130
140	0·16	0·04	0·16	0·04	0·16	0·03	0·15	0·04	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·03	0·14	0·03	0·14	0·03	0·14	0·03	140
150	0·20	0·04	0·20	0·04	0·19	0·04	0·19	0·04	0·18	0·04	0·18	0·04	0·18	0·04	0·18	0·03	0·17	0·04	0·17	0·03	0·17	0·03	150
160	0·24	0·04	0·24	0·04	0·23	0·04	0·23	0·04	0·22	0·04	0·22	0·04	0·22	0·04	0·21	0·04	0·21	0·04	0·20	0·04	0·20	0·04	160
170	0·28	0·05	0·28	0·05	0·27	0·05	0·27	0·05	0·26	0·05	0·26	0·05	0·26	0·05	0·25	0·05	0·25	0·05	0·24	0·05	0·24	0·05	170
180	0·33	0·06	0·33	0·06	0·32	0·06	0·32	0·06	0·31	0·06	0·31	0·06	0·31	0·05	0·30	0·05	0·30	0·05	0·29	0·05	0·29	0·05	180
190	0·39	0·07	0·39	0·06	0·38	0·06	0·38	0·05	0·37	0·06	0·37	0·06	0·36	0·06	0·35	0·06	0·35	0·05	0·34	0·06	0·34	0·05	190
200	0·46	0·07	0·45	0·07	0·44	0·07	0·44	0·07	0·43	0·07	0·43	0·06	0·42	0·06	0·41	0·06	0·40	0·07	0·40	0·06	0·39	0·06	**200**
210	0·53	0·08	0·52	0·08	0·51	0·08	0·51	0·07	0·50	0·07	0·49	0·08	0·48	0·08	0·47	0·08	0·47	0·07	0·46	0·07	0·45	0·07	210
220	0·61	0·09	0·60	0·09	0·59	0·09	0·58	0·09	0·57	0·09	0·57	0·08	0·56	0·08	0·55	0·08	0·54	0·08	0·53	0·08	0·52	0·08	220
230	0·70	0·10	0·69	0·10	0·68	0·09	0·67	0·09	0·66	0·09	0·65	0·09	0·64	0·09	0·63	0·09	0·62	0·08	0·61	0·08	0·60	0·08	230
240	0·80	0·10	0·79	0·10	0·77	0·10	0·76	0·10	0·75	0·10	0·74	0·10	0·73	0·09	0·72	0·09	0·70	0·09	0·69	0·09	0·68	0·09	240
250	0·90	0·11	0·89	0·11	0·87	0·11	0·86	0·11	0·85	0·10	0·84	0·10	0·82	0·10	0·81	0·10	0·79	0·10	0·78	0·10	0·77	0·09	250
260	1·01	0·12	1·00	0·11	0·98	0·12	0·97	0·11	0·95	0·11	0·94	0·11	0·92	0·11	0·91	0·10	0·89	0·10	0·88	0·10	0·86	0·10	260
270	1·13	0·13	1·11	0·13	1·10	0·12	1·08	0·12	1·06	0·12	1·05	0·12	1·03	0·12	1·01	0·12	0·99	0·12	0·98	0·11	0·96	0·11	270
280	1·26	0·14	1·24	0·14	1·22	0·14	1·20	0·14	1·18	0·14	1·17	0·13	1·15	0·12	1·13	0·12	1·11	0·12	1·09	0·12	1·07	0·12	280
290	1·40	0·15	1·38	0·15	1·36	0·14	1·34	0·14	1·32	0·14	1·30	0·14	1·27	0·14	1·25	0·14	1·23	0·14	1·21	0·13	1·19	0·13	290
300	1·55	0·16	1·53	0·16	1·50	0·16	1·48	0·16	1·46	0·15	1·44	0·15	1·41	0·15	1·39	0·14	1·37	0·14	1·34	0·14	1·32	0·14	**300**
310	1·71	0·17	1·69	0·16	1·66	0·16	1·64	0·16	1·61	0·16	1·59	0·15	1·56	0·15	1·53	0·15	1·51	0·15	1·48	0·15	1·46	0·14	310
320	1·88	0·18	1·85	0·18	1·82	0·18	1·80	0·17	1·77	0·17	1·74	0·17	1·71	0·16	1·68	0·16	1·66	0·15	1·63	0·15	1·60	0·15	320
330	2·06	0·19	2·03	0·19	2·00	0·18	1·97	0·18	1·94	0·18	1·91	0·18	1·87	0·18	1·84	0·18	1·81	0·17	1·78	0·17	1·75	0·17	330
340	2·25	0·20	2·22	0·19	2·18	0·20	2·15	0·19	2·12	0·19	2·09	0·18	2·05	0·18	2·02	0·18	1·98	0·18	1·95	0·18	1·92	0·17	340
350	2·45	0·21	2·41	0·21	2·38	0·21	2·34	0·20	2·31	0·20	2·27	0·20	2·23	0·20	2·20	0·19	2·16	0·19	2·13	0·18	2·09	0·18	350
360	2·66	0·23	2·62	0·23	2·59	0·22	2·54	0·22	2·51	0·21	2·47	0·21	2·43	0·21	2·39	0·21	2·35	0·20	2·31	0·20	2·27	0·20	360
370	2·89	0·24	2·85	0·23	2·81	0·23	2·76	0·23	2·72	0·23	2·68	0·22	2·64	0·21	2·60	0·21	2·55	0·21	2·51	0·21	2·47	0·20	370
380	3·13	0·25	3·08	0·25	3·04	0·24	2·99	0·24	2·95	0·23	2·90	0·23	2·85	0·23	2·81	0·23	2·76	0·23	2·72	0·22	2·67	0·22	380
390	3·38	0·26	3·33	0·26	3·28	0·26	3·23	0·25	3·18	0·25	3·13	0·25	3·08	0·24	3·04	0·23	2·99	0·23	2·94	0·23	2·89	0·22	390
400	3·64	0·28	3·59	0·27	3·54	0·27	3·48	0·27	3·43	0·26	3·38	0·26	3·32	0·26	3·27	0·25	3·22	0·24	3·17	0·24	3·11	0·24	**400**
410	3·92	0·29	3·86	0·29	3·81	0·28	3·75	0·28	3·69	0·28	3·64	0·27	3·58	0·26	3·52	0·26	3·46	0·26	3·41	0·25	3·35	0·25	410
420	4·21	0·30	4·15	0·30	4·09	0·29	4·03	0·29	3·97	0·28	3·91	0·28	3·84	0·28	3·78	0·28	3·72	0·27	3·66	0·27	3·60	0·26	420
430	4·51	0·32	4·45	0·31	4·38	0·31	4·32	0·30	4·25	0·30	4·19	0·29	4·12	0·29	4·06	0·28	3·99	0·28	3·93	0·27	3·86	0·27	430
440	4·83	0·33	4·76	0·33	4·69	0·32	4·62	0·32	4·55	0·31	4·48	0·31	4·41	0·30	4·34	0·30	4·27	0·29	4·20	0·29	4·13	0·28	440
450	5·16	0·35	5·09	0·34	5·01	0·34	4·94	0·33	4·86	0·33	4·79	0·32	4·71	0·32	4·64	0·31	4·56	0·31	4·49	0·30	4·41	0·30	450
460	5·51	0·36	5·43	0·36	5·35	0·35	5·27	0·35	5·19	0·34	5·11	0·34	5·03	0·33	4·95	0·33	4·87	0·32	4·79	0·32	4·71	0·31	460
470	5·87	0·38	5·79	0·37	5·70	0·37	5·62	0·36	5·53	0·36	5·45	0·35	5·36	0·34	5·28	0·34	5·19	0·33	5·11	0·33	5·02	0·32	470
480	6·25	0·39	6·16	0·38	6·07	0·38	5·98	0·37	5·89	0·37	5·80	0·36	5·70	0·36	5·62	0·35	4·52	0·35	5·44	0·34	5·34	0·34	480
490	6·64	0·41	6·54	0·41	6·45	0·40	6·35	0·39	6·26	0·38	6·16	0·38	6·06	0·38	5·97	0·37	5·87	0·36	5·78	0·35	5·68	0·35	490
500	7·05		6·95		6·85		6·74		6·64		6·54		6·44		6·34		6·23		6·13		6·03		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 2600—2800.

	2600	Diff.	2620	Diff.	2640	Diff.	2660	Diff.	2680	Diff.	2700	Diff.	2720	Diff.	2740	Diff.	2760	Diff.	2780	Diff.	2800	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
60	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	60
70	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	70
80	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	80
90	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	90
100	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	**100**
110	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·01	0·07	0·01	0·07	0·01	0·06	0·02	0·06	0·02	0·06	0·01	0·06	0·01	0·06	0·01	110
120	0·09	0·02	0·09	0·02	0·09	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·07	0·02	0·07	0·02	0·07	0·02	120
130	0·11	0·03	0·11	0·03	0·11	0·03	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·03	0·09	0·03	0·09	0·03	0·09	0·03	130
140	0·14	0·03	0·14	0·03	0·14	0·02	0·13	0·03	0·13	0·03	0·13	0·03	0·13	0·02	0·13	0·02	0·12	0·03	0·12	0·02	0·12	0·02	140
150	0·17	0·03	0·17	0·03	0·16	0·03	0·16	0·03	0·16	0·03	0·16	0·03	0·15	0·03	0·15	0·03	0·15	0·03	0·14	0·03	0·14	0·03	150
160	0·20	0·04	0·20	0·04	0·19	0·04	0·19	0·04	0·19	0·04	0·19	0·04	0·18	0·04	0·18	0·04	0·18	0·04	0·17	0·04	0·17	0·04	160
170	0·24	0·05	0·24	0·05	0·23	0·05	0·23	0·05	0·23	0·04	0·23	0·04	0·22	0·04	0·22	0·04	0·22	0·04	0·21	0·04	0·21	0·04	170
180	0·29	0·05	0·29	0·05	0·28	0·05	0·28	0·05	0·27	0·05	0·27	0·05	0·26	0·05	0·26	0·05	0·26	0·04	0·25	0·05	0·25	0·04	180
190	0·34	0·05	0·34	0·05	0·33	0·05	0·33	0·05	0·32	0·05	0·32	0·05	0·31	0·05	0·31	0·05	0·30	0·05	0·30	0·05	0·29	0·05	190
200	0·39	0·06	0·39	0·05	0·38	0·06	0·38	0·05	0·37	0·06	0·37	0·05	0·36	0·05	0·36	0·05	0·35	0·05	0·35	0·05	0·34	0·05	**200**
210	0·45	0·07	0·44	0·07	0·44	0·07	0·43	0·07	0·43	0·06	0·42	0·07	0·41	0·07	0·41	0·06	0·40	0·06	0·40	0·06	0·39	0·06	210
220	0·52	0·08	0·51	0·08	0·51	0·07	0·50	0·07	0·49	0·07	0·49	0·07	0·48	0·07	0·47	0·07	0·46	0·07	0·46	0·06	0·45	0·06	220
230	0·60	0·08	0·59	0·08	0·58	0·08	0·57	0·08	0·56	0·08	0·56	0·07	0·55	0·07	0·54	0·07	0·53	0·07	0·52	0·07	0·51	0·07	230
240	0·68	0·09	0·67	0·09	0·66	0·09	0·65	0·08	0·64	0·08	0·63	0·08	0·62	0·08	0·61	0·08	0·60	0·08	0·59	0·08	0·58	0·08	240
250	0·77	0·09	0·76	0·09	0·75	0·09	0·73	0·09	0·72	0·09	0·71	0·09	0·70	0·09	0·69	0·09	0·68	0·08	0·67	0·08	0·66	0·08	250
260	0·86	0·10	0·85	0·10	0·84	0·09	0·82	0·10	0·81	0·10	0·80	0·10	0·79	0·09	0·78	0·09	0·76	0·10	0·75	0·09	0·74	0·09	260
270	0·96	0·11	0·95	0·11	0·93	0·11	0·92	0·11	0·91	0·10	0·90	0·10	0·88	0·10	0·87	0·10	0·86	0·10	0·84	0·10	0·83	0·10	270
280	1·07	0·12	1·06	0·11	1·04	0·12	1·03	0·11	1·01	0·11	1·00	0·11	0·98	0·11	0·97	0·11	0·96	0·10	0·94	0·10	0·93	0·10	280
290	1·19	0·13	1·17	0·13	1·16	0·12	1·14	0·12	1·12	0·12	1·11	0·12	1·09	0·12	1·08	0·11	1·06	0·11	1·04	0·11	1·03	0·10	290
300	1·32	0·14	1·30	0·14	1·28	0·14	1·26	0·13	1·24	0·13	1·23	0·13	1·21	0·13	1·19	0·13	1·17	0·12	1·15	0·12	1·13	0·12	**300**
310	1·46	0·14	1·44	0·14	1·42	0·14	1·39	0·14	1·37	0·14	1·36	0·13	1·34	0·13	1·32	0·13	1·29	0·13	1·27	0·13	1·25	0·13	310
320	1·60	0·15	1·58	0·15	1·56	0·14	1·53	0·15	1·51	0·14	1·49	0·14	1·47	0·14	1·45	0·13	1·42	0·14	1·40	0·14	1·38	0·13	320
330	1·75	0·17	1·73	0·16	1·70	0·16	1·68	0·16	1·65	0·16	1·63	0·16	1·61	0·15	1·58	0·15	1·56	0·15	1·54	0·15	1·51	0·15	330
340	1·92	0·17	1·89	0·17	1·86	0·17	1·84	0·17	1·81	0·17	1·79	0·16	1·76	0·16	1·73	0·16	1·71	0·15	1·69	0·15	1·66	0·15	340
350	2·09	0·18	2·06	0·18	2·03	0·18	2·01	0·17	1·98	0·17	1·95	0·17	1·92	0·16	1·89	0·16	1·86	0·16	1·84	0·15	1·81	0·15	350
360	2·27	0·20	2·24	0·19	2·21	0·19	2·18	0·19	2·15	0·18	2·12	0·18	2·08	0·18	2·05	0·18	2·02	0·18	1·99	0·17	1·96	0·17	360
370	2·47	0·20	2·43	0·20	2·40	0·20	2·37	0·19	2·33	0·20	2·30	0·19	2·26	0·19	2·23	0·19	2·20	0·18	2·16	0·18	2·13	0·18	370
380	2·67	0·22	2·63	0·22	2·60	0·21	2·56	0·21	2·53	0·20	2·49	0·20	2·45	0·20	2·42	0·19	2·38	0·19	2·34	0·19	2·31	0·18	380
390	2·89	0·22	2·85	0·22	2·81	0·22	2·77	0·21	2·73	0·21	2·69	0·21	2·65	0·21	2·61	0·21	2·57	0·20	2·53	0·20	2·49	0·20	390
400	3·11	0·24	3·07	0·23	3·03	0·23	2·98	0·23	2·94	0·23	2·90	0·22	2·86	0·21	2·82	0·21	2·77	0·21	2·73	0·21	2·69	0·20	**400**
410	3·35	0·25	3·30	0·25	3·26	0·24	3·21	0·24	3·17	0·23	3·12	0·24	3·07	0·23	3·03	0·23	2·98	0·23	2·94	0·22	2·89	0·22	410
420	3·60	0·26	3·55	0·26	3·50	0·25	3·45	0·25	3·40	0·25	3·36	0·24	3·30	0·24	3·26	0·23	3·21	0·23	3·16	0·22	3·11	0·22	420
430	3·86	0·27	3·81	0·26	3·75	0·27	3·70	0·26	3·65	0·26	3·60	0·25	3·54	0·25	3·49	0·25	3·44	0·24	3·38	0·25	3·33	0·24	430
440	4·13	0·28	4·07	0·28	4·02	0·27	3·96	0·27	3·91	0·26	3·85	0·27	3·79	0·27	3·74	0·26	3·68	0·26	3·63	0·25	3·57	0·25	440
450	4·41	0·30	4·35	0·30	4·29	0·29	4·23	0·29	4·17	0·28	4·12	0·27	4·06	0·27	4·00	0·26	3·94	0·26	3·88	0·26	3·82	0·25	450
460	4·71	0·31	4·65	0·30	4·58	0·30	4·52	0·30	4·45	0·30	4·39	0·29	4·33	0·29	4·26	0·29	4·20	0·28	4·14	0·27	4·07	0·27	460
470	5·02	0·32	4·95	0·32	4·88	0·32	4·82	0·31	4·75	0·30	4·68	0·30	4·62	0·29	4·55	0·29	4·48	0·28	4·41	0·28	4·34	0·28	470
480	5·34	0·34	5·27	0·33	5·20	0·33	5·13	0·32	5·05	0·32	4·98	0·32	4·91	0·31	4·84	0·30	4·76	0·30	4·69	0·30	4·62	0·29	480
490	5·68	0·35	5·60	0·35	5·53	0·34	5·45	0·34	5·37	0·34	5·30	0·33	5·22	0·32	5·14	0·32	5·06	0·32	4·99	0·31	4·91	0·31	490
500	6·03		5·95		5·87		5·79		5·71		5·63		5·54		5·46		5·38		5·30		5·22		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 2800—3000.

	2800	Diff.	2820	Diff.	2840	Diff.	2860	Diff.	2880	Diff.	2900	Diff.	2920	Diff.	2940	Diff.	2960	Diff.	2980	Diff.	3000	Diff.	
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0**
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30
40	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	40
50	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	50
60	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	60
70	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	70
80	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	80
90	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	90
100	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.01	0.04	0.01	0.04	0.01	0.04	0.01	0.04	0.01	**100**
110	0.06	0.01	0.06	0.01	0.06	0.01	0.06	0.01	0.06	0.01	0.06	0.01	0.05	0.01	0.05	0.01	0.05	0.01	0.05	0.01	0.05	0.01	110
120	0.07	0.02	0.07	0.02	0.07	0.02	0.07	0.02	0.07	0.02	0.07	0.02	0.06	0.02	0.06	0.02	0.06	0.02	0.06	0.02	0.06	0.02	120
130	0.09	0.03	0.09	0.03	0.09	0.03	0.09	0.02	0.09	0.02	0.09	0.02	0.08	0.03	0.08	0.03	0.08	0.02	0.08	0.02	0.08	0.02	130
140	0.12	0.02	0.12	0.02	0.12	0.02	0.11	0.03	0.11	0.03	0.11	0.03	0.11	0.02	0.11	0.02	0.10	0.03	0.10	0.03	0.10	0.03	140
150	0.14	0.03	0.14	0.03	0.14	0.03	0.14	0.03	0.14	0.03	0.14	0.03	0.13	0.03	0.13	0.03	0.13	0.03	0.13	0.02	0.13	0.02	150
160	0.17	0.04	0.17	0.04	0.17	0.03	0.17	0.03	0.17	0.03	0.17	0.03	0.16	0.03	0.16	0.03	0.16	0.03	0.15	0.03	0.15	0.03	160
170	0.21	0.04	0.21	0.04	0.20	0.04	0.20	0.04	0.20	0.03	0.20	0.03	0.19	0.04	0.19	0.03	0.19	0.03	0.18	0.03	0.18	0.03	170
180	0.25	0.04	0.25	0.04	0.24	0.04	0.24	0.04	0.23	0.04	0.23	0.04	0.23	0.04	0.22	0.04	0.22	0.04	0.21	0.04	0.21	0.04	180
190	0.29	0.05	0.29	0.05	0.28	0.05	0.28	0.05	0.27	0.05	0.27	0.05	0.27	0.04	0.26	0.05	0.26	0.04	0.25	0.05	0.25	0.04	190
200	0.34	0.05	0.34	0.05	0.33	0.05	0.33	0.05	0.32	0.05	0.32	0.05	0.31	0.05	0.31	0.05	0.30	0.05	0.30	0.05	0.29	0.05	**200**
210	0.39	0.06	0.39	0.05	0.38	0.06	0.38	0.05	0.37	0.06	0.37	0.05	0.36	0.05	0.36	0.05	0.35	0.05	0.35	0.05	0.34	0.05	210
220	0.45	0.06	0.44	0.06	0.44	0.06	0.43	0.06	0.43	0.06	0.42	0.06	0.41	0.06	0.41	0.06	0.40	0.06	0.40	0.06	0.39	0.06	220
230	0.51	0.07	0.50	0.07	0.50	0.07	0.49	0.07	0.49	0.06	0.48	0.07	0.47	0.07	0.47	0.06	0.46	0.06	0.46	0.06	0.45	0.06	230
240	0.58	0.08	0.57	0.08	0.57	0.07	0.56	0.07	0.55	0.07	0.55	0.07	0.54	0.07	0.53	0.07	0.52	0.07	0.52	0.07	0.51	0.07	240
250	0.66	0.08	0.65	0.08	0.64	0.08	0.63	0.08	0.62	0.08	0.62	0.08	0.61	0.08	0.60	0.08	0.59	0.08	0.59	0.07	0.58	0.07	250
260	0.74	0.09	0.73	0.09	0.72	0.09	0.71	0.09	0.70	0.09	0.70	0.08	0.69	0.08	0.68	0.08	0.67	0.08	0.66	0.08	0.65	0.08	260
270	0.83	0.10	0.82	0.10	0.81	0.09	0.80	0.09	0.79	0.09	0.78	0.09	0.77	0.09	0.76	0.09	0.75	0.08	0.74	0.08	0.73	0.08	270
280	0.93	0.10	0.92	0.10	0.90	0.10	0.89	0.10	0.88	0.10	0.87	0.10	0.86	0.09	0.85	0.09	0.83	0.10	0.82	0.09	0.81	0.09	280
290	1.03	0.10	1.02	0.10	1.00	0.10	0.99	0.10	0.98	0.10	0.97	0.10	0.95	0.10	0.94	0.10	0.93	0.10	0.91	0.10	0.90	0.10	290
300	1.13	0.12	1.12	0.12	1.10	0.12	1.09	0.12	1.08	0.12	1.07	0.11	1.05	0.11	1.04	0.10	1.03	0.10	1.01	0.10	1.00	0.10	**300**
310	1.25	0.13	1.24	0.12	1.22	0.12	1.21	0.12	1.20	0.11	1.18	0.11	1.16	0.11	1.14	0.11	1.13	0.11	1.11	0.11	1.10	0.10	310
320	1.38	0.13	1.36	0.13	1.34	0.13	1.33	0.12	1.31	0.12	1.29	0.12	1.27	0.12	1.25	0.12	1.24	0.11	1.22	0.11	1.20	0.11	320
330	1.51	0.15	1.49	0.15	1.47	0.14	1.45	0.14	1.43	0.14	1.41	0.14	1.39	0.14	1.37	0.13	1.35	0.13	1.33	0.13	1.31	0.13	330
340	1.66	0.15	1.64	0.15	1.61	0.15	1.59	0.15	1.57	0.14	1.55	0.14	1.53	0.14	1.50	0.14	1.48	0.14	1.46	0.13	1.44	0.13	340
350	1.81	0.15	1.79	0.15	1.76	0.15	1.74	0.15	1.71	0.15	1.69	0.15	1.67	0.14	1.64	0.15	1.62	0.14	1.59	0.15	1.57	0.14	350
360	1.96	0.17	1.94	0.16	1.91	0.17	1.89	0.16	1.86	0.16	1.84	0.16	1.81	0.16	1.79	0.15	1.76	0.15	1.74	0.15	1.71	0.15	360
370	2.13	0.18	2.10	0.18	2.08	0.17	2.05	0.17	2.02	0.17	2.00	0.16	1.97	0.16	1.94	0.16	1.91	0.16	1.89	0.15	1.86	0.15	370
380	2.31	0.18	2.28	0.18	2.25	0.18	2.22	0.17	2.19	0.17	2.16	0.17	2.13	0.17	2.10	0.17	2.07	0.16	2.04	0.16	2.01	0.16	380
390	2.49	0.20	2.46	0.19	2.43	0.19	2.39	0.19	2.36	0.19	2.33	0.19	2.30	0.18	2.27	0.18	2.23	0.18	2.20	0.18	2.17	0.17	390
400	2.69	0.20	2.65	0.20	2.62	0.20	2.58	0.20	2.55	0.19	2.52	0.19	2.48	0.19	2.45	0.18	2.41	0.18	2.38	0.18	2.34	0.18	**400**
410	2.89	0.22	2.85	0.22	2.82	0.21	2.78	0.21	2.74	0.21	2.71	0.20	2.67	0.20	2.63	0.20	2.59	0.20	2.56	0.19	2.52	0.19	410
420	3.11	0.22	3.07	0.22	3.03	0.22	2.99	0.21	2.95	0.21	2.91	0.21	2.87	0.21	2.83	0.21	2.79	0.20	2.75	0.20	2.71	0.20	420
430	3.33	0.24	3.29	0.24	3.25	0.23	3.20	0.23	3.16	0.23	3.12	0.23	3.08	0.22	3.04	0.22	2.99	0.22	2.95	0.21	2.91	0.21	430
440	3.57	0.25	3.53	0.24	3.48	0.24	3.43	0.24	3.39	0.23	3.35	0.23	3.30	0.23	3.26	0.22	3.21	0.22	3.16	0.22	3.12	0.21	440
450	3.82	0.25	3.77	0.25	3.72	0.25	3.67	0.25	3.62	0.25	3.58	0.24	3.53	0.23	3.48	0.23	3.43	0.23	3.38	0.23	3.33	0.23	450
460	4.07	0.27	4.02	0.27	3.97	0.26	3.92	0.26	3.87	0.26	3.82	0.25	3.76	0.25	3.71	0.25	3.66	0.24	3.61	0.24	3.56	0.23	460
470	4.34	0.28	4.29	0.27	4.23	0.27	4.18	0.26	4.13	0.25	4.07	0.26	4.01	0.26	3.96	0.25	3.90	0.25	3.85	0.24	3.79	0.24	470
480	4.62	0.29	4.56	0.29	4.50	0.29	4.44	0.28	4.38	0.28	4.33	0.27	4.27	0.27	4.21	0.27	4.15	0.26	4.09	0.26	4.03	0.26	480
490	4.91	0.31	4.85	0.30	4.79	0.30	4.72	0.30	4.66	0.29	4.60	0.29	4.54	0.28	4.48	0.27	4.41	0.27	4.35	0.27	4.29	0.26	490
500	5.22		5.15		5.09		5.02		4.95		4.89		4.82		4.75		4.68		4.62		4.55		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 3000—3200.

	3000	Diff.	3020	Diff.	3040	Diff.	3060	Diff.	3080	Diff.	3100	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
70	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
80	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
90	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
100	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01
110	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01
120	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02
130	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02
140	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·02	0·10	0·02	0·10	0·02
150	0·13	0·02	0·13	0·02	0·13	0·02	0·12	0·02	0·12	0·02	0·12	0·02
160	0·15	0·03	0·15	0·03	0·15	0·03	0·14	0·03	0·14	0·03	0·14	0·03
170	0·18	0·03	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	0·17	0·03
180	0·21	0·04	0·21	0·04	0·21	0·03	0·20	0·04	0·20	0·04	0·20	0·04
190	0·25	0·04	0·25	0·04	0·24	0·04	0·24	0·04	0·24	0·04	0·24	0·04
200	0·29	0·05	0·29	0·05	0·28	0·05	0·28	0·05	0·28	0·04	0·28	0·04
210	0·34	0·05	0·34	0·05	0·33	0·05	0·33	0·05	0·32	0·05	0·32	0·05
220	0·39	0·06	0·39	0·05	0·38	0·06	0·38	0·05	0·37	0·06	0·37	0·05
230	0·45	0·06	0·44	0·06	0·44	0·06	0·43	0·06	0·43	0·06	0·42	0·06
240	0·51	0·07	0·50	0·07	0·50	0·06	0·49	0·07	0·49	0·06	0·48	0·06
250	0·58	0·07	0·57	0·07	0·56	0·07	0·56	0·07	0·55	0·07	0·54	0·07
260	0·65	0·08	0·64	0·08	0·63	0·08	0·63	0·07	0·62	0·07	0·61	0·07
270	0·73	0·08	0·72	0·08	0·71	0·08	0·70	0·08	0·69	0·08	0·68	0·08
280	0·81	0·09	0·80	0·09	0·79	0·09	0·78	0·09	0·77	0·09	0·76	0·09
290	0·90	0·10	0·89	0·10	0·88	0·09	0·87	0·09	0·86	0·09	0·85	0·09
300	1·00	0·10	0·99	0·10	0·97	0·10	0·96	0·10	0·95	0·09	0·94	0·09
310	1·10	0·10	1·09	0·10	1·07	0·10	1·06	0·10	1·04	0·10	1·03	0·10
320	1·20	0·11	1·19	0·11	1·17	0·11	1·16	0·11	1·14	0·11	1·13	0·11
330	1·31	0·13	1·30	0·12	1·28	0·12	1·27	0·12	1·25	0·12	1·24	0·12
340	1·44	0·13	1·42	0·13	1·40	0·13	1·39	0·12	1·37	0·12	1·36	0·12
350	1·57	0·14	1·55	0·14	1·53	0·14	1·51	0·14	1·49	0·14	1·48	0·13
360	1·71	0·15	1·69	0·15	1·67	0·14	1·65	0·14	1·63	0·14	1·61	0·14
370	1·86	0·15	1·84	0·15	1·81	0·15	1·79	0·15	1·77	0·14	1·75	0·14
380	2·01	0·16	1·99	0·15	1·96	0·16	1·94	0·15	1·91	0·16	1·89	0·15
390	2·17	0·17	2·14	0·17	2·12	0·17	2·09	0·17	2·07	0·16	2·04	0·16
400	2·34	0·18	2·31	0·18	2·29	0·17	2·26	0·17	2·23	0·17	2·20	0·17
410	2·52	0·19	2·49	0·19	2·46	0·19	2·43	0·18	2·40	0·18	2·37	0·18
420	2·71	0·20	2·68	0·20	2·65	0·19	2·61	0·20	2·58	0·19	2·55	0·19
430	2·91	0·21	2·88	0·20	2·84	0·20	2·81	0·20	2·77	0·20	2·74	0·19
440	3·12	0·21	3·08	0·21	3·04	0·21	3·01	0·21	2·97	0·20	2·93	0·20
450	3·33	0·23	3·29	0·22	3·25	0·22	3·22	0·21	3·17	0·21	3·13	0·21
460	3·56	0·23	3·51	0·23	3·47	0·22	3·43	0·22	3·38	0·22	3·34	0·22
470	3·79	0·24	3·74	0·24	3·69	0·24	3·65	0·23	3·60	0·24	3·56	0·23
480	4·03	0·26	3·98	0·26	3·93	0·25	3·88	0·25	3·84	0·24	3·79	0·24
490	4·29	0·26	4·24	0·26	4·18	0·26	4·13	0·26	4·08	0·25	4·03	0·25
500	4·55		4·50		4·44		4·39		4·33		4·28	

	3120	Diff.	3140	Diff.	3160	Diff.	3180	Diff.	3200	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	70
80	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	80
90	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	90
100	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	**100**
110	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	110
120	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	120
130	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	130
140	0·09	0·03	0·09	0·03	0·09	0·02	0·09	0·02	0·09	0·02	140
150	0·12	0·02	0·12	0·02	0·11	0·02	0·11	0·02	0·11	0·02	150
160	0·14	0·03	0·14	0·03	0·13	0·03	0·13	0·03	0·13	0·03	160
170	0·17	0·03	0·17	0·03	0·16	0·03	0·16	0·03	0·16	0·03	170
180	0·20	0·03	0·20	0·03	0·19	0·04	0·19	0·03	0·19	0·03	180
190	0·23	0·04	0·23	0·04	0·23	0·04	0·22	0·04	0·22	0·04	190
200	0·27	0·05	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	**200**
210	0·32	0·05	0·31	0·05	0·31	0·05	0·30	0·05	0·30	0·05	210
220	0·37	0·05	0·36	0·05	0·36	0·05	0·35	0·05	0·35	0·05	220
230	0·42	0·05	0·41	0·06	0·41	0·05	0·40	0·06	0·40	0·05	230
240	0·47	0·06	0·47	0·06	0·46	0·06	0·46	0·06	0·45	0·06	240
250	0·53	0·07	0·53	0·06	0·52	0·07	0·52	0·06	0·51	0·06	250
260	0·60	0·07	0·59	0·07	0·59	0·07	0·58	0·07	0·57	0·07	260
270	0·67	0·08	0·66	0·08	0·66	0·07	0·65	0·07	0·64	0·07	270
280	0·75	0·08	0·74	0·08	0·73	0·08	0·72	0·08	0·71	0·08	280
290	0·83	0·09	0·82	0·09	0·81	0·09	0·80	0·08	0·79	0·08	290
300	0·92	0·10	0·91	0·09	0·90	0·09	0·88	0·09	0·87	0·09	**300**
310	1·02	0·10	1·00	0·10	0·99	0·10	0·97	0·10	0·96	0·10	310
320	1·12	0·11	1·10	0·11	1·09	0·10	1·07	0·11	1·06	0·10	320
330	1·23	0·11	1·21	0·11	1·19	0·11	1·18	0·11	1·16	0·11	330
340	1·34	0·12	1·32	0·12	1·30	0·12	1·29	0·11	1·27	0·11	340
350	1·46	0·12	1·44	0·12	1·42	0·12	1·40	0·12	1·38	0·12	350
360	1·58	0·14	1·56	0·14	1·54	0·14	1·52	0·13	1·50	0·13	360
370	1·72	0·14	1·70	0·14	1·68	0·14	1·65	0·14	1·63	0·14	370
380	1·86	0·15	1·84	0·15	1·82	0·14	1·79	0·15	1·77	0·14	380
390	2·01	0·16	1·99	0·16	1·96	0·16	1·94	0·15	1·91	0·15	390
400	2·17	0·17	2·15	0·16	2·12	0·16	2·09	0·16	2·06	0·16	**400**
410	2·34	0·18	2·31	0·18	2·28	0·17	2·25	0·17	2·22	0·17	410
420	2·52	0·18	2·49	0·18	2·45	0·18	2·42	0·18	2·39	0·17	420
430	2·70	0·19	2·67	0·18	2·63	0·19	2·60	0·18	2·56	0·18	430
440	2·89	0·20	2·85	0·20	2·82	0·19	2·78	0·19	2·74	0·19	440
450	3·09	0·21	3·05	0·21	3·01	0·20	2·97	0·20	2·93	0·20	450
460	3·30	0·21	3·26	0·21	3·21	0·21	3·17	0·21	3·13	0·20	460
470	3·51	0·23	3·47	0·22	3·42	0·22	3·38	0·22	3·33	0·22	470
480	3·74	0·24	3·69	0·24	3·64	0·23	3·60	0·22	3·55	0·22	480
490	3·98	0·25	3·93	0·24	3·87	0·25	3·82	0·24	3·77	0·24	490
500	4·23		4·17		4·12		4·06		4·01		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 3200—3400.

	3200	Diff.	3220	Diff.	3240	Diff.	3260	Diff.	3280	Diff.	3300	Diff.	3320	Diff.	3340	Diff.	3360	Diff.	3380	Diff.	3400	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	70
80	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	80
90	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	90
100	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	**100**
110	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	110
120	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	120
130	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	130
140	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	140
150	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	150
160	0·13	0·03	0·13	0·03	0·13	0·03	0·13	0·02	0·13	0·02	0·13	0·02	0·12	0·03	0·12	0·03	0·12	0·02	0·12	0·02	0·12	0·02	160
170	0·16	0·03	0·16	0·03	0·16	0·03	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·03	0·14	0·03	0·14	0·03	0·14	0·03	170
180	0·19	0·03	0·19	0·03	0·19	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	0·17	0·03	180
190	0·22	0·04	0·22	0·04	0·22	0·03	0·21	0·04	0·21	0·04	0·21	0·04	0·21	0·03	0·21	0·03	0·20	0·04	0·20	0·03	0·20	0·03	190
200	0·26	0·04	0·26	0·04	0·25	0·04	0·25	0·04	0·25	0·04	0·25	0·04	0·24	0·04	0·24	0·04	0·24	0·04	0·23	0·04	0·23	0·04	**200**
210	0·30	0·05	0·30	0·05	0·29	0·05	0·29	0·05	0·29	0·04	0·29	0·04	0·28	0·04	0·28	0·04	0·28	0·04	0·27	0·04	0·27	0·04	210
220	0·35	0·05	0·35	0·05	0·34	0·05	0·34	0·05	0·33	0·05	0·33	0·05	0·32	0·05	0·32	0·05	0·32	0·04	0·31	0·05	0·31	0·04	220
230	0·40	0·05	0·40	0·05	0·39	0·05	0·39	0·05	0·38	0·05	0·38	0·05	0·37	0·05	0·37	0·05	0·36	0·05	0·36	0·05	0·35	0·05	230
240	0·45	0·06	0·45	0·05	0·44	0·06	0·44	0·05	0·43	0·06	0·43	0·05	0·42	0·05	0·42	0·05	0·41	0·05	0·41	0·05	0·40	0·05	240
250	0·51	0·06	0·50	0·06	0·50	0·06	0·49	0·06	0·49	0·06	0·48	0·06	0·47	0·06	0·47	0·06	0·46	0·06	0·46	0·06	0·45	0·06	250
260	0·57	0·07	0·56	0·07	0·56	0·06	0·55	0·07	0·55	0·06	0·54	0·06	0·53	0·06	0·53	0·06	0·52	0·06	0·52	0·06	0·51	0·06	260
270	0·64	0·07	0·63	0·07	0·62	0·07	0·62	0·07	0·61	0·07	0·60	0·07	0·59	0·07	0·59	0·06	0·58	0·07	0·58	0·06	0·57	0·06	270
280	0·71	0·08	0·70	0·08	0·69	0·08	0·69	0·07	0·68	0·07	0·67	0·08	0·66	0·08	0·65	0·08	0·65	0·07	0·64	0·07	0·63	0·07	280
290	0·79	0·08	0·78	0·08	0·77	0·08	0·76	0·08	0·75	0·08	0·75	0·08	0·74	0·08	0·73	0·08	0·72	0·08	0·71	0·08	0·70	0·08	290
300	0·87	0·09	0·86	0·09	0·85	0·09	0·84	0·09	0·83	0·09	0·83	0·08	0·82	0·08	0·81	0·08	0·80	0·08	0·79	0·08	0·78	0·08	**300**
310	0·96	0·10	0·95	0·10	0·94	0·09	0·93	0·09	0·92	0·09	0·91	0·09	0·90	0·09	0·89	0·09	0·88	0·08	0·87	0·08	0·86	0·08	310
320	1·06	0·10	1·05	0·10	1·03	0·10	1·02	0·10	1·01	0·10	1·00	0·10	0·99	0·09	0·98	0·09	0·96	0·10	0·95	0·09	0·94	0·09	320
330	1·16	0·11	1·15	0·11	1·13	0·11	1·12	0·11	1·11	0·10	1·10	0·10	1·08	0·10	1·07	0·10	1·06	0·10	1·04	0·10	1·03	0·10	330
340	1·27	0·11	1·26	0·11	1·24	0·11	1·23	0·11	1·21	0·11	1·20	0·11	1·18	0·11	1·17	0·11	1·16	0·10	1·14	0·11	1·13	0·10	340
350	1·38	0·12	1·37	0·11	1·35	0·12	1·34	0·12	1·32	0·12	1·31	0·11	1·29	0·11	1·28	0·11	1·26	0·11	1·25	0·11	1·23	0·11	350
360	1·50	0·13	1·48	0·13	1·47	0·13	1·46	0·12	1·44	0·12	1·42	0·13	1·40	0·12	1·39	0·12	1·37	0·12	1·36	0·12	1·34	0·12	360
370	1·63	0·14	1·61	0·14	1·60	0·13	1·58	0·13	1·56	0·13	1·55	0·13	1·52	0·13	1·51	0·12	1·49	0·12	1·48	0·12	1·46	0·12	370
380	1·77	0·14	1·75	0·14	1·73	0·14	1·71	0·14	1·69	0·14	1·68	0·13	1·65	0·13	1·63	0·13	1·61	0·13	1·60	0·12	1·58	0·12	380
390	1·91	0·15	1·89	0·15	1·87	0·14	1·85	0·14	1·83	0·14	1·81	0·14	1·78	0·14	1·76	0·14	1·74	0·14	1·72	0·13	1·70	0·13	390
400	2·06	0·16	2·04	0·16	2·01	0·16	1·99	0·16	1·97	0·15	1·95	0·15	1·92	0·15	1·90	0·15	1·88	0·14	1·85	0·15	1·83	0·14	**400**
410	2·22	0·17	2·20	0·16	2·17	0·16	2·15	0·16	2·12	0·16	2·10	0·16	2·07	0·16	2·05	0·15	2·02	0·15	2·00	0·15	1·97	0·15	410
420	2·39	0·17	2·36	0·17	2·33	0·17	2·31	0·16	2·28	0·16	2·26	0·16	2·23	0·16	2·20	0·16	2·17	0·16	2·15	0·15	2·12	0·15	420
430	2·56	0·18	2·53	0·18	2·50	0·18	2·47	0·18	2·44	0·18	2·42	0·17	2·39	0·16	2·36	0·16	2·33	0·16	2·30	0·16	2·27	0·16	430
440	2·74	0·19	2·71	0·19	2·68	0·18	2·65	0·18	2·62	0·18	2·59	0·18	2·55	0·18	2·52	0·18	2·49	0·18	2·46	0·17	2·43	0·17	440
450	2·93	0·20	2·90	0·19	2·86	0·20	2·83	0·19	2·80	0·19	2·77	0·19	2·73	0·19	2·70	0·18	2·67	0·18	2·63	0·18	2·60	0·18	450
460	3·13	0·20	3·09	0·20	3·06	0·20	3·02	0·20	2·99	0·19	2·96	0·19	2·92	0·19	2·88	0·19	2·85	0·19	2·81	0·19	2·78	0·18	460
470	3·33	0·22	3·29	0·22	3·26	0·21	3·22	0·21	3·18	0·21	3·15	0·20	3·11	0·20	3·07	0·20	3·04	0·19	3·00	0·19	2·96	0·19	470
480	3·55	0·22	3·51	0·22	3·47	0·22	3·43	0·22	3·39	0·21	3·35	0·21	3·31	0·21	3·27	0·21	3·23	0·20	3·19	0·20	3·15	0·20	480
490	3·77	0·24	3·73	0·24	3·69	0·23	3·65	0·23	3·60	0·23	3·56	0·23	3·52	0·22	3·48	0·22	3·43	0·22	3·39	0·22	3·35	0·21	490
500	4·01		3·97		3·92		3·88		3·83		3·79		3·74		3·70		3·65		3·61		3·56		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 3400—3600.

	3400	Diff.	3420	Diff.	3440	Diff.	3460	Diff.	3480	Diff.	3500	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
70	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
80	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00
90	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
100	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
110	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01
120	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01
130	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02
140	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02
150	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02
160	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02
170	0·14	0·03	0·14	0·03	0·14	0·03	0·14	0·02	0·14	0·02	0·14	0·02
180	0·17	0·03	0·17	0·03	0·17	0·03	0·16	0·03	0·16	0·03	0·16	0·03
190	0·20	0·03	0·20	0·03	0·20	0·03	0·19	0·03	0·19	0·03	0·19	0·03
200	0·23	0·04	0·23	0·04	0·23	0·03	0·22	0·04	0·22	0·03	0·22	0·03
210	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	0·25	0·04	0·25	0·04
220	0·31	0·04	0·31	0·04	0·30	0·04	0·30	0·04	0·29	0·04	0·29	0·04
230	0·35	0·05	0·35	0·05	0·34	0·05	0·34	0·05	0·33	0·05	0·33	0·05
240	0·40	0·05	0·40	0·05	0·39	0·05	0·39	0·05	0·38	0·05	0·38	0·05
250	0·45	0·06	0·45	0·05	0·44	0·06	0·44	0·05	0·43	0·05	0·43	0·05
260	0·51	0·06	0·50	0·06	0·50	0·06	0·49	0·06	0·48	0·06	0·48	0·06
270	0·57	0·06	0·56	0·06	0·56	0·06	0·55	0·06	0·54	0·06	0·54	0·06
280	0·63	0·07	0·62	0·07	0·62	0·07	0·61	0·07	0·60	0·07	0·60	0·06
290	0·70	0·08	0·69	0·08	0·69	0·07	0·68	0·07	0·67	0·07	0·66	0·07
300	0·78	0·08	0·77	0·08	0·76	0·08	0·75	0·08	0·74	0·08	0·73	0·08
310	0·86	0·08	0·85	0·08	0·84	0·08	0·83	0·08	0·82	0·08	0·81	0·08
320	0·94	0·09	0·93	0·09	0·92	0·09	0·91	0·09	0·90	0·09	0·89	0·09
330	1·03	0·10	1·02	0·10	1·01	0·09	1·00	0·09	0·99	0·09	0·98	0·09
340	1·13	0·10	1·12	0·10	1·10	0·10	1·09	0·10	1·08	0·10	1·07	0·10
350	1·23	0·11	1·22	0·11	1·20	0·11	1·19	0·11	1·18	0·10	1·17	0·10
360	1·34	0·12	1·33	0·11	1·31	0·11	1·30	0·11	1·28	0·11	1·27	0·11
370	1·46	0·12	1·44	0·12	1·42	0·12	1·41	0·11	1·39	0·11	1·38	0·11
380	1·58	0·12	1·56	0·12	1·54	0·12	1·52	0·12	1·50	0·12	1·49	0·12
390	1·70	0·13	1·68	0·13	1·66	0·13	1·64	0·13	1·62	0·13	1·61	0·13
400	1·83	0·14	1·81	0·14	1·79	0·14	1·77	0·14	1·75	0·14	1·74	0·13
410	1·97	0·15	1·95	0·15	1·93	0·14	1·91	0·14	1·89	0·14	1·87	0·14
420	2·12	0·15	2·10	0·15	2·07	0·15	2·05	0·15	2·03	0·15	2·01	0·14
430	2·27	0·16	2·25	0·15	2·22	0·16	2·20	0·16	2·18	0·15	2·15	0·15
440	2·43	0·17	2·40	0·17	2·38	0·17	2·36	0·16	2·33	0·16	2·30	0·16
450	2·60	0·18	2·57	0·18	2·55	0·17	2·52	0·17	2·49	0·17	2·46	0·17
460	2·78	0·18	2·75	0·18	2·72	0·18	2·69	0·18	2·66	0·18	2·63	0·17
470	2·96	0·19	2·93	0·19	2·90	0·19	2·87	0·19	2·84	0·18	2·80	0·18
480	3·15	0·20	3·12	0·19	3·09	0·19	3·06	0·19	3·02	0·19	2·98	0·19
490	3·35	0·21	3·31	0·21	3·28	0·21	3·25	0·20	3·21	0·20	3·17	0·21
500	3·56		3·52		3·49		3·45		3·41		3·38	

	3520	Diff.	3540	Diff.	3560	Diff.	3580	Diff.	3600	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
80	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	80
90	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	90
100	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00	**100**
110	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	110
120	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	120
130	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	130
140	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	140
150	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	150
160	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	160
170	0·13	0·03	0·13	0·03	0·13	0·02	0·13	0·02	0·13	0·02	170
180	0·16	0·03	0·16	0·03	0·15	0·03	0·15	0·03	0·15	0·03	180
190	0·19	0·03	0·19	0·03	0·18	0·03	0·18	0·03	0·18	0·03	190
200	0·22	0·03	0·22	0·03	0·21	0·03	0·21	0·03	0·21	0·03	**200**
210	0·25	0·04	0·25	0·03	0·24	0·04	0·24	0·03	0·24	0·03	210
220	0·29	0·04	0·28	0·04	0·28	0·04	0·27	0·04	0·27	0·04	220
230	0·33	0·04	0·32	0·05	0·32	0·04	0·31	0·05	0·31	0·04	230
240	0·37	0·05	0·37	0·05	0·36	0·05	0·36	0·05	0·35	0·05	240
250	0·42	0·05	0·42	0·05	0·41	0·05	0·41	0·05	0·40	0·05	250
260	0·47	0·06	0·47	0·05	0·46	0·05	0·46	0·05	0·45	0·05	260
270	0·53	0·06	0·52	0·06	0·51	0·06	0·51	0·06	0·50	0·06	270
280	0·59	0·06	0·58	0·06	0·57	0·07	0·57	0·06	0·56	0·06	280
290	0·65	0·07	0·64	0·07	0·64	0·07	0·63	0·07	0·62	0·07	290
300	0·72	0·08	0·71	0·08	0·71	0·07	0·70	0·07	0·69	0·07	**300**
310	0·80	0·08	0·79	0·08	0·78	0·08	0·77	0·08	0·76	0·08	310
320	0·88	0·08	0·87	0·08	0·86	0·08	0·85	0·08	0·84	0·08	320
330	0·96	0·09	0·95	0·09	0·94	0·09	0·93	0·09	0·92	0·09	330
340	1·05	0·10	1·04	0·10	1·03	0·10	1·02	0·09	1·01	0·09	340
350	1·15	0·10	1·14	0·10	1·13	0·09	1·11	0·10	1·10	0·09	350
360	1·25	0·11	1·24	0·10	1·22	0·10	1·21	0·10	1·19	0·10	360
370	1·36	0·11	1·34	0·11	1·32	0·12	1·31	0·11	1·29	0·11	370
380	1·47	0·12	1·45	0·12	1·44	0·11	1·42	0·11	1·40	0·11	380
390	1·59	0·12	1·57	0·12	1·55	0·12	1·53	0·12	1·51	0·12	390
400	1·71	0·13	1·69	0·13	1·67	0·13	1·65	0·13	1·63	0·13	**400**
410	1·84	0·14	1·82	0·14	1·80	0·14	1·78	0·13	1·76	0·13	410
420	1·98	0·14	1·96	0·14	1·94	0·14	1·91	0·14	1·89	0·14	420
430	2·12	0·15	2·10	0·15	2·08	0·14	2·05	0·15	2·03	0·14	430
440	2·27	0·16	2·25	0·15	2·22	0·16	2·20	0·15	2·17	0·15	440
450	2·43	0·17	2·40	0·17	2·38	0·16	2·35	0·16	2·32	0·16	450
460	2·60	0·17	2·57	0·17	2·54	0·16	2·51	0·16	2·48	0·16	460
470	2·77	0·18	2·74	0·18	2·70	0·18	2·67	0·17	2·64	0·17	470
480	2·95	0·19	2·92	0·18	2·88	0·18	2·84	0·19	2·81	0·18	480
490	3·14	0·20	3·10	0·20	3·06	0·20	3·03	0·20	2·99	0·20	490
500	3·34		3·30		3·26		3·23		3·19		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 3600—3800.

	3600	Diff.	3620	Diff.	3640	Diff.	3660	Diff.	3680	Diff.	3700	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
80	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
90	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
100	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00
110	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
120	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01
130	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02
140	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·01	0·07	0·01	0·07	0·01
150	0·09	0·02	0·09	0·02	0·09	0·02	0·08	0·02	0·08	0·02	0·08	0·02
160	0·11	0·02	0·11	0·02	0·11	0·02	0·10	0·02	0·10	0·02	0·10	0·02
170	0·13	0·02	0·13	0·02	0·13	0·02	0·12	0·03	0·12	0·03	0·12	0·03
180	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·02	0·15	0·02	0·15	0·02
190	0·18	0·03	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	0·17	0·03
200	0·21	0·03	0·21	0·03	0·21	0·03	0·20	0·03	0·20	0·03	0·20	0·03
210	0·24	0·03	0·24	0·03	0·24	0·03	0·23	0·03	0·23	0·03	0·23	0·03
220	0·27	0·04	0·27	0·04	0·27	0·03	0·26	0·04	0·26	0·04	0·26	0·04
230	0·31	0·04	0·31	0·04	0·30	0·04	0·30	0·04	0·30	0·04	0·30	0·04
240	0·35	0·05	0·35	0·05	0·34	0·05	0·34	0·05	0·34	0·04	0·34	0·04
250	0·40	0·05	0·40	0·05	0·39	0·05	0·39	0·05	0·38	0·05	0·38	0·05
260	0·45	0·05	0·45	0·05	0·44	0·05	0·44	0·05	0·43	0·05	0·43	0·05
270	0·50	0·06	0·50	0·05	0·49	0·06	0·49	0·05	0·48	0·06	0·48	0·05
280	0·56	0·06	0·55	0·06	0·55	0·06	0·54	0·06	0·54	0·06	0·53	0·06
290	0·62	0·07	0·61	0·07	0·61	0·06	0·60	0·07	0·60	0·06	0·59	0·06
300	0·69	0·07	0·68	0·07	0·67	0·07	0·67	0·07	0·66	0·07	0·65	0·07
310	0·76	0·08	0·75	0·08	0·74	0·08	0·74	0·07	0·73	0·07	0·72	0·08
320	0·84	0·08	0·83	0·08	0·82	0·08	0·81	0·08	0·80	0·08	0·80	0·08
330	0·92	0·09	0·91	0·09	0·90	0·09	0·89	0·08	0·88	0·08	0·88	0·08
340	1·01	0·09	1·00	0·09	0·99	0·09	0·97	0·09	0·96	0·09	0·96	0·08
350	1·10	0·09	1·09	0·09	1·08	0·09	1·06	0·09	1·05	0·09	1·04	0·09
360	1·19	0·10	1·18	0·10	1·17	0·09	1·15	0·10	1·14	0·10	1·13	0·10
370	1·29	0·11	1·28	0·11	1·26	0·11	1·25	0·11	1·24	0·10	1·23	0·10
380	1·40	0·11	1·39	0·11	1·37	0·11	1·36	0·11	1·34	0·11	1·33	0·11
390	1·51	0·12	1·50	0·12	1·48	0·12	1·47	0·11	1·45	0·12	1·44	0·11
400	1·63	0·13	1·62	0·12	1·60	0·12	1·58	0·12	1·57	0·12	1·55	0·12
410	1·76	0·13	1·74	0·13	1·72	0·13	1·70	0·13	1·69	0·12	1·67	0·13
420	1·89	0·14	1·87	0·14	1·85	0·14	1·83	0·13	1·81	0·13	1·80	0·13
430	2·03	0·14	2·01	0·14	1·99	0·14	1·96	0·14	1·94	0·14	1·93	0·14
440	2·17	0·15	2·15	0·15	2·13	0·15	2·10	0·15	2·08	0·15	2·07	0·14
450	2·32	0·16	2·30	0·15	2·28	0·15	2·25	0·15	2·23	0·15	2·21	0·15
460	2·48	0·16	2·45	0·16	2·43	0·16	2·40	0·16	2·38	0·16	2·36	0·15
470	2·64	0·17	2·61	0·17	2·59	0·16	2·56	0·17	2·54	0·16	2·51	0·16
480	2·81	0·18	2·78	0·18	2·75	0·18	2·73	0·17	2·70	0·17	2·67	0·17
490	2·99	0·20	2·96	0·20	2·93	0·19	2·90	0·19	2·87	0·19	2·84	0·19
500	3·19		3·16		3·12		3·09		3·06		3·03	

	3720	Diff.	3740	Diff.	3760	Diff.	3780	Diff.	3800	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
80	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	80
90	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	90
100	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**100**
110	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	110
120	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	120
130	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	130
140	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	140
150	0·08	0·02	0·08	0·02	0·08	0·01	0·08	0·01	0·08	0·01	150
160	0·10	0·02	0·10	0·02	0·09	0·02	0·09	0·02	0·09	0·02	160
170	0·12	0·02	0·12	0·02	0·11	0·03	0·11	0·03	0·11	0·03	170
180	0·14	0·03	0·14	0·03	0·14	0·02	0·14	0·02	0·14	0·02	180
190	0·17	0·03	0·17	0·03	0·16	0·03	0·16	0·03	0·16	0·03	190
200	0·20	0·03	0·20	0·03	0·19	0·03	0·19	0·03	0·19	0·03	**200**
210	0·23	0·03	0·23	0·03	0·22	0·03	0·22	0·03	0·22	0·03	210
220	0·26	0·04	0·26	0·03	0·25	0·04	0·25	0·03	0·25	0·03	220
230	0.30	0·04	0·29	0·04	0·29	0·04	0·28	0·04	0·28	0·04	230
240	0·34	0·04	0·33	0·04	0·33	0·04	0·32	0·04	0·32	0·04	240
250	0·38	0·05	0·37	0·05	0·37	0·04	0·36	0·05	0·36	0·05	250
260	0·43	0·05	0·42	0·05	0·41	0·05	0·41	0·05	0·41	0·05	260
270	0·48	0·05	0·47	0·05	0·46	0·05	0·46	0·05	0·46	0·05	270
280	0·53	0·05	0·52	0·06	0·51	0·06	0·51	0·06	0·51	0·05	280
290	0·58	0·06	0·58	0·06	0·57	0·06	0·57	0·06	0·56	0·06	290
300	0·64	0·07	0·64	0·07	0·63	0·07	0·63	0·06	0·62	0·06	**300**
310	0·71	0·08	0·71	0·07	0·70	0·07	0·69	0·07	0·68	0·07	310
320	0·79	0·08	0·78	0·08	0·77	0·07	0·76	0·07	0·75	0·07	320
330	0·87	0·08	0·86	0·08	0·84	0·08	0·83	0·08	0·82	0·08	330
340	0·95	0·08	0·94	0·08	0·92	0·08	0·91	0·08	0·90	0·08	340
350	1·03	0·09	1·02	0·09	1·00	0·09	0·99	0·09	0·98	0·09	350
360	1·12	0·09	1·11	0·09	1·09	0·10	1·08	0·09	1·07	0·09	360
370	1·21	0·10	1·20	0·10	1·19	0·10	1·17	0·10	1·16	0·10	370
380	1·31	0·11	1·30	0·11	1·29	0·10	1·27	0·11	1·26	0·10	380
390	1·42	0·11	1·41	0·11	1·39	0·11	1·38	0·11	1·36	0·11	390
400	1·53	0·12	1·52	0·11	1·50	0·12	1·49	0·11	1·47	0·11	**400**
410	1·65	0·12	1·63	0·12	1·62	0·12	1·60	0·12	1·58	0·12	410
420	1·77	0·13	1·75	0·13	1·74	0·12	1·72	0·12	1·70	0·12	420
430	1·90	0·14	1·88	0·14	1·86	0·13	1·84	0·13	1·82	0·13	430
440	2·04	0·14	2·02	0·14	1·99	0·14	1·97	0·14	1·95	0·14	440
450	2·18	0·15	2·16	0·15	2·13	0·15	2·11	0·15	2·09	0·14	450
460	2·33	0·15	2·31	0·15	2·28	0·15	2·26	0·15	2·23	0·15	460
470	2·48	0·16	2·46	0·15	2·43	0·16	2·41	0·15	2·38	0·15	470
480	2·64	0·17	2·61	0·17	2·59	0·16	2·56	0·16	2·53	0·16	480
490	2·81	0·18	2·78	0·18	2·75	0·18	2·72	0·17	2·69	0·17	490
500	2·99		2·96		2·93		2·89		2·86		**500**

Reduction to the angle φ. **Reduction auf den Winkel φ.** *Réduction à l'angle φ.*

Dist. 3800—4000.

	3800	Diff.	3820	Diff.	3840	Diff.	3860	Diff.	3880	Diff.	3900	Diff.	3920	Diff.	3940	Diff.	3960	Diff.	3980	Diff.	4000	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	60
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
80	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	80
90	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	90
100	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**100**
110	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	110
120	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	120
130	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	130
140	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	140
150	0·08	0·01	0·08	0·01	0·08	0·01	0·08	0·01	0·08	0·01	0·08	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·02	150
160	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·09	0·01	160
170	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·02	0·11	0·02	0·11	0·02	0·10	0·03	0·10	0·03	0·10	0·02	0·10	0·02	0·10	0·02	170
180	0·14	0·02	0·14	0·02	0·14	0·02	0·13	0·02	0·13	0·02	0·13	0·02	0·13	0·02	0·13	0·02	0·12	0·02	0·12	0·02	0·12	0·02	180
190	0·16	0·03	0·16	0·03	0·16	0·03	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·03	0·14	0·03	0·14	0·03	0·14	0·03	190
200	0·19	0·03	0·19	0·03	0·19	0·02	0·18	0·03	0·18	0·03	0·18	0·03	0·18	0·02	0·18	0·02	0·17	0·03	0·17	0·02	0·17	0·02	**200**
210	0·22	0·03	0·22	0·03	0·21	0·03	0·21	0·03	0·21	0·03	0·21	0·03	0·20	0·03	0·20	0·03	0·20	0·03	0·19	0·03	0·19	0·03	210
220	0·25	0·03	0·25	0·03	0·24	0·03	0·24	0·03	0·24	0·03	0·24	0·03	0·23	0·03	0·23	0·03	0·23	0·03	0·22	0·03	0·22	0·03	220
230	0·28	0·04	0·28	0·04	0·27	0·04	0·27	0·04	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	0·26	0·04	0·25	0·04	0·25	0·04	230
240	0·32	0·04	0·32	0·04	0·31	0·04	0·31	0·04	0·31	0·04	0·31	0·04	0·30	0·04	0·30	0·04	0·30	0·04	0·29	0·04	0·29	0·04	240
250	0·36	0·05	0·36	0·05	0·35	0·05	0·35	0·05	0·35	0·04	0·35	0·04	0·34	0·04	0·34	0·04	0·34	0·04	0·33	0·04	0·33	0·04	250
260	0·41	0·05	0·41	0·05	0·40	0·05	0·40	0·05	0·39	0·05	0·39	0·05	0·38	0·05	0·38	0·05	0·38	0·04	0·37	0·05	0·37	0·04	260
270	0·46	0·05	0·46	0·05	0·45	0·05	0·45	0·05	0·44	0·05	0·44	0·05	0·43	0·05	0·43	0·05	0·42	0·05	0·42	0·05	0·41	0·05	270
280	0·51	0·05	0·51	0·05	0·50	0·05	0·50	0·05	0·49	0·05	0·49	0·05	0·48	0·05	0·48	0·05	0·47	0·05	0·47	0·05	0·46	0·05	280
290	0·56	0·06	0·56	0·05	0·55	0·06	0·55	0·05	0·54	0·06	0·54	0·05	0·53	0·05	0·53	0·05	0·52	0·05	0·52	0·05	0·51	0·05	290
300	0·62	0·06	0·61	0·06	0·61	0·06	0·60	0·06	0·60	0·06	0·59	0·06	0·58	0·06	0·58	0·06	0·57	0·06	0·57	0·06	0·56	0·06	**300**
310	0·68	0·07	0·67	0·07	0·67	0·07	0·66	0·07	0·66	0·06	0·65	0·07	0·64	0·07	0·64	0·06	0·63	0·06	0·63	0·06	0·62	0·06	310
320	0·75	0·07	0·74	0·07	0·74	0·07	0·73	0·07	0·72	0·07	0·72	0·07	0·71	0·07	0·70	0·07	0·69	0·07	0·69	0·06	0·68	0·06	320
330	0·82	0·08	0·81	0·08	0·81	0·07	0·80	0·07	0·79	0·08	0·79	0·07	0·78	0·07	0·77	0·07	0·76	0·08	0·75	0·07	0·74	0·07	330
340	0·90	0·08	0·89	0·08	0·88	0·08	0·87	0·08	0·87	0·08	0·86	0·08	0·85	0·08	0·84	0·08	0·84	0·07	0·82	0·08	0·81	0·08	340
350	0·98	0·09	0·97	0·09	0·96	0·09	0·95	0·09	0·95	0·08	0·94	0·08	0·93	0·08	0·92	0·08	0·91	0·08	0·90	0·08	0·89	0·08	350
360	1·07	0·09	1·06	0·09	1·05	0·09	1·04	0·09	1·03	0·09	1·02	0·09	1·01	0·08	1·00	0·08	0·99	0·08	0·98	0·08	0·97	0·08	360
370	1·16	0·10	1·15	0·10	1·14	0·09	1·13	0·09	1·12	0·09	1·11	0·09	1·09	0·09	1·08	0·09	1·07	0·09	1·06	0·09	1·05	0·09	370
380	1·26	0·10	1·25	0·10	1·23	0·10	1·22	0·10	1·21	0·10	1·20	0·10	1·18	0·10	1·17	0·10	1·16	0·10	1·15	0·09	1·14	0·09	380
390	1·36	0·11	1·35	0·11	1·33	0·11	1·32	0·11	1·31	0·10	1·30	0·10	1·28	0·10	1·27	0·10	1·26	0·09	1·24	0·10	1·23	0·09	390
400	1·47	0·11	1·46	0·11	1·44	0·11	1·43	0·11	1·41	0·11	1·40	0·11	1·38	0·11	1·37	0·10	1·35	0·10	1·34	0·10	1·32	0·10	**400**
410	1·58	0·12	1·57	0·11	1·55	0·11	1·54	0·11	1·52	0·11	1·51	0·11	1·49	0·11	1·47	0·11	1·45	0·11	1·44	0·11	1·42	0·11	410
420	1·70	0·12	1·68	0·12	1·66	0·12	1·65	0·12	1·63	0·12	1·62	0·12	1·60	0·11	1·58	0·11	1·56	0·12	1·55	0·11	1·53	0·11	420
430	1·82	0·13	1·80	0·13	1·78	0·13	1·77	0·12	1·75	0·12	1·74	0·12	1·71	0·12	1·69	0·12	1·68	0·12	1·66	0·12	1·64	0·12	430
440	1·95	0·14	1·93	0·14	1·91	0·14	1·89	0·13	1·87	0·13	1·86	0·13	1·83	0·13	1·81	0·13	1·80	0·12	1·78	0·12	1·76	0·12	440
450	2·09	0·14	2·07	0·14	2·05	0·14	2·02	0·14	2·00	0·14	1·99	0·13	1·96	0·14	1·94	0·13	1·92	0·13	1·90	0·13	1·88	0·13	450
460	2·23	0·15	2·21	0·15	2·19	0·14	2·16	0·15	2·14	0·14	2·12	0·14	2·10	0·14	2·07	0·14	2·05	0·14	2·03	0·13	2·01	0·13	460
470	2·38	0·15	2·36	0·15	2·33	0·15	2·31	0·15	2·28	0·15	2·26	0·15	2·24	0·14	2·21	0·15	2·19	0·14	2·16	0·15	2·14	0·14	470
480	2·53	0·16	2·51	0·15	2·48	0·16	2·46	0·15	2·43	0·16	2·41	0·15	2·38	0·15	2·36	0·15	2·33	0·15	2·31	0·15	2·28	0·15	480
490	2·69	0·17	2·66	0·17	2·64	0·16	2·61	0·17	2·59	0·16	2·56	0·16	2·53	0·16	2·51	0·15	2·48	0·16	2·46	0·15	2·43	0·15	490
500	2·86		2·83		2·80		2·78		2·75		2·72		2·69		2·66		2·64		2·61		2·58		**500**

Reduction auf die Tangente φ.

Reduction to the tangent φ.

Réduction à la tangente φ.

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 1000—1100.

	1000	Diff.	1010	Diff.	1020	Diff.	1030	Diff.	1040	Diff.	1050	Diff.	1060	Diff.	1070	Diff.	1080	Diff.	1090	Diff.	1100	Diff.	
0	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		**0**
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20
30	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	30
40	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	40
50	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	50
60	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.04	0.01	0.04	0.01	0.04	0.01	60
70	0.09	0.04	0.09	0.04	0.09	0.04	0.08	0.03	0.08	0.03	0.08	0.03	0.08	0.03	0.08	0.03	0.07	0.03	0.07	0.03	0.07	0.03	70
80	0.13	0.04	0.13	0.04	0.13	0.04	0.12	0.04	0.12	0.04	0.12	0.04	0.12	0.04	0.12	0.04	0.11	0.04	0.11	0.04	0.11	0.04	80
90	0.18	0.05	0.18	0.05	0.18	0.05	0.17	0.05	0.17	0.05	0.17	0.05	0.17	0.05	0.16	0.04	0.16	0.05	0.15	0.04	0.15	0.04	90
100	0.25	0.07	0.25	0.07	0.24	0.06	0.24	0.07	0.23	0.06	0.23	0.06	0.23	0.06	0.22	0.06	0.22	0.06	0.21	0.06	0.21	0.06	**100**
110	0.33	0.08	0.33	0.08	0.32	0.08	0.32	0.08	0.31	0.08	0.31	0.08	0.30	0.07	0.30	0.08	0.29	0.07	0.29	0.08	0.28	0.07	110
120	0.43	0.10	0.42	0.09	0.42	0.10	0.41	0.09	0.40	0.09	0.40	0.09	0.39	0.09	0.38	0.08	0.37	0.08	0.37	0.08	0.36	0.08	120
130	0.55	0.12	0.54	0.12	0.53	0.11	0.52	0.11	0.51	0.11	0.50	0.10	0.49	0.10	0.48	0.10	0.47	0.10	0.46	0.09	0.45	0.09	130
140	0.68	0.13	0.67	0.13	0.65	0.12	0.64	0.12	0.63	0.12	0.62	0.12	0.61	0.12	0.60	0.12	0.58	0.11	0.57	0.11	0.56	0.11	140
150	0.83	0.15	0.82	0.15	0.80	0.15	0.79	0.15	0.77	0.14	0.76	0.14	0.75	0.14	0.73	0.13	0.71	0.13	0.70	0.13	0.69	0.13	150
160	1.01	0.18	0.99	0.17	0.98	0.18	0.96	0.17	0.94	0.17	0.93	0.17	0.91	0.16	0.89	0.16	0.87	0.16	0.85	0.15	0.84	0.15	160
170	1.21	0.20	1.19	0.20	1.17	0.19	1.15	0.19	1.13	0.19	1.11	0.18	1.08	0.17	1.06	0.17	1.04	0.17	1.02	0.17	1.00	0.16	170
180	1.43	0.22	1.41	0.22	1.38	0.21	1.36	0.21	1.33	0.20	1.31	0.20	1.28	0.20	1.26	0.20	1.24	0.20	1.21	0.19	1.19	0.19	180
190	1.68	0.25	1.65	0.24	1.62	0.24	1.60	0.24	1.57	0.24	1.54	0.23	1.51	0.23	1.48	0.22	1.46	0.22	1.42	0.21	1.40	0.21	190
200	1.96	0.28	1.93	0.28	1.89	0.27	1.86	0.26	1.83	0.26	1.80	0.26	1.76	0.25	1.73	0.25	1.70	0.24	1.66	0.24	1.63	0.23	**200**
210	2.27	0.31	2.23	0.30	2.19	0.30	2.15	0.29	2.11	0.28	2.08	0.28	2.04	0.28	2.00	0.27	1.96	0.26	1.92	0.26	1.88	0.25	210
220	2.60	0.33	2.56	0.33	2.51	0.32	2.47	0.32	2.42	0.31	2.38	0.30	2.34	0.30	2.29	0.29	2.25	0.29	2.20	0.28	2.16	0.28	220
230	2.96	0.36	2.91	0.35	2.86	0.35	2.81	0.34	2.76	0.34	2.72	0.34	2.67	0.33	2.61	0.32	2.57	0.32	2.52	0.32	2.47	0.31	230
240	3.36	0.40	3.30	0.39	3.24	0.38	3.19	0.38	3.13	0.37	3.08	0.36	3.02	0.35	2.96	0.35	2.90	0.33	2.85	0.33	2.79	0.32	240
250	3.79	0.43	3.73	0.43	3.66	0.42	3.60	0.41	3.53	0.40	3.47	0.39	3.41	0.39	3.34	0.38	3.27	0.37	3.21	0.36	3.15	0.36	250
260	4.25	0.46	4.18	0.45	4.11	0.45	4.03	0.43	3.96	0.43	3.89	0.42	3.82	0.41	3.75	0.41	3.67	0.40	3.60	0.39	3.53	0.38	260
270	4.74	0.49	4.66	0.48	4.58	0.47	4.50	0.47	4.42	0.46	4.35	0.46	4.27	0.45	4.19	0.44	4.11	0.44	4.03	0.43	3.95	0.42	270
280	5.28	0.54	5.19	0.53	5.10	0.52	5.01	0.51	4.92	0.50	4.83	0.48	4.75	0.48	4.66	0.47	4.57	0.46	4.48	0.45	4.39	0.44	280
290	5.86	0.58	5.76	0.57	5.66	0.56	5.56	0.55	5.46	0.54	5.36	0.53	5.27	0.52	5.17	0.51	5.07	0.50	4.97	0.49	4.87	0.48	290
300	6.46	0.60	6.35	0.59	6.24	0.58	6.14	0.58	6.03	0.57	5.92	0.56	5.81	0.54	5.70	0.53	5.60	0.53	5.49	0.52	5.38	0.51	**300**
310	7.11	0.65	6.99	0.64	6.87	0.63	6.75	0.61	6.63	0.60	6.52	0.60	6.40	0.59	6.28	0.58	6.16	0.56	6.04	0.55	5.92	0.54	310
320	7.80	0.69	7.67	0.68	7.54	0.67	7.41	0.66	7.28	0.65	7.15	0.63	7.02	0.62	6.89	0.61	6.76	0.60	6.63	0.59	6.50	0.58	320
330	8.53	0.73	8.39	0.72	8.25	0.71	8.10	0.69	7.96	0.68	7.82	0.67	7.68	0.66	7.54	0.65	7.39	0.63	7.25	0.62	7.11	0.61	330
340	9.30	0.77	9.15	0.76	8.99	0.74	8.84	0.74	8.68	0.72	8.53	0.71	8.38	0.70	8.22	0.68	8.06	0.67	7.91	0.66	7.76	0.65	340
350	10.11	0.81	9.94	0.79	9.78	0.79	9.61	0.77	9.44	0.76	9.27	0.74	9.11	0.73	8.94	0.72	8.77	0.71	8.61	0.70	8.44	0.68	350
360	10.96	0.85	10.78	0.84	10.60	0.82	10.42	0.81	10.24	0.80	10.06	0.79	9.88	0.77	9.70	0.76	9.52	0.75	9.34	0.73	9.16	0.72	360
370	11.86	0.90	11.67	0.89	11.47	0.87	11.28	0.86	11.08	0.84	10.89	0.83	10.69	0.81	10.50	0.80	10.30	0.78	10.11	0.77	9.91	0.75	370
380	12.81	0.95	12.60	0.93	12.39	0.92	12.18	0.90	11.97	0.89	11.76	0.87	11.55	0.86	11.34	0.84	11.13	0.83	10.92	0.81	10.71	0.80	380
390	13.80	0.99	13.57	0.97	13.35	0.96	13.12	0.94	12.90	0.93	12.67	0.91	12.45	0.90	12.22	0.88	11.99	0.86	11.77	0.85	11.54	0.83	390
400	14.84	1.04	14.60	1.03	14.36	1.01	14.11	0.99	13.87	0.97	13.63	0.96	13.39	0.94	13.15	0.93	12.90	0.91	12.66	0.89	12.42	0.88	**400**
410	15.92	1.08	15.66	1.06	15.40	1.04	15.14	1.03	14.88	1.01	14.63	1.00	14.37	0.98	14.11	0.96	13.85	0.95	13.59	0.93	13.33	0.91	410
420	17.05	1.13	16.77	1.11	16.50	1.10	16.22	1.08	15.94	1.06	15.67	1.04	15.39	1.02	15.12	1.01	14.83	0.98	14.56	0.97	14.28	0.95	420
430	18.23	1.18	17.94	1.17	17.64	1.14	17.35	1.13	17.05	1.11	16.76	1.09	16.46	1.07	16.17	1.05	15.87	1.04	15.58	1.02	15.28	1.00	430
440	19.45	1.22	19.14	1.20	18.82	1.18	18.51	1.16	18.20	1.15	17.89	1.13	17.57	1.11	17.26	1.09	16.95	1.08	16.64	1.06	16.32	1.04	440
450	20.73	1.28	20.40	1.26	20.07	1.25	19.73	1.22	19.40	1.20	19.07	1.18	18.74	1.17	18.41	1.15	18.07	1.12	17.74	1.10	17.41	1.09	450
460	22.06	1.33	21.71	1.31	21.35	1.28	21.00	1.27	20.64	1.24	20.29	1.22	19.94	1.20	19.58	1.17	19.23	1.16	18.87	1.13	18.53	1.12	460
470	23.43	1.37	23.06	1.35	22.68	1.33	22.31	1.31	21.93	1.29	21.56	1.27	21.19	1.25	20.81	1.23	20.44	1.21	20.06	1.19	19.69	1.16	470
480	24.86	1.43	24.46	1.40	24.07	1.39	23.67	1.36	23.28	1.35	22.88	1.32	22.48	1.29	22.09	1.28	21.69	1.25	21.30	1.24	20.90	1.21	480
490	26.34	1.48	25.92	1.46	25.50	1.43	25.09	1.42	24.67	1.39	24.25	1.37	23.83	1.35	23.41	1.32	23.00	1.31	22.58	1.28	22.16	1.26	490
500	27.86	1.52	27.42	1.50	26.98	1.48	26.54	1.45	26.10	1.43	25.66	1.41	25.22	1.39	24.78	1.37	24.34	1.34	23.90	1.32	23.46	1.30	**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 1100—1200.

	1100	Diff.	1110	Diff.	1120	Diff.	1130	Diff.	1140	Diff.	1150	Diff.	1160	Diff.	1170	Diff.	1180	Diff.	1190	Diff.	1200	Diff.	
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0**
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
20	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20
30	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	30
40	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	40
50	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	50
60	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.03	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	60
70	0.07	0.04	0.07	0.04	0.07	0.04	0.07	0.03	0.07	0.03	0.07	0.03	0.06	0.04	0.06	0.04	0.06	0.03	0.06	0.03	0.06	0.03	70
80	0.11	0.04	0.11	0.04	0.11	0.04	0.10	0.04	0.10	0.04	0.10	0.04	0.10	0.04	0.10	0.04	0.09	0.04	0.09	0.04	0.09	0.04	80
90	0.15	0.06	0.15	0.06	0.15	0.05	0.14	0.06	0.14	0.05	0.14	0.05	0.14	0.05	0.14	0.05	0.13	0.05	0.13	0.05	0.13	0.04	90
100	0.21	0.07	0.21	0.07	0.20	0.07	0.20	0.07	0.19	0.07	0.19	0.06	0.19	0.06	0.19	0.06	0.18	0.06	0.18	0.06	0.17	0.06	**100**
110	0.28	0.08	0.28	0.07	0.27	0.08	0.27	0.07	0.26	0.08	0.25	0.08	0.25	0.07	0.25	0.07	0.24	0.07	0.24	0.07	0.23	0.07	110
120	0.36	0.09	0.35	0.09	0.35	0.09	0.34	0.09	0.34	0.08	0.33	0.09	0.32	0.09	0.32	0.08	0.31	0.08	0.31	0.08	0.30	0.08	120
130	0.45	0.11	0.44	0.11	0.44	0.10	0.43	0.10	0.42	0.10	0.42	0.10	0.41	0.10	0.40	0.10	0.39	0.10	0.39	0.09	0.38	0.09	130
140	0.56	0.13	0.55	0.13	0.54	0.13	0.53	0.13	0.52	0.13	0.52	0.12	0.51	0.12	0.50	0.12	0.49	0.12	0.48	0.11	0.47	0.11	140
150	0.69	0.15	0.68	0.15	0.67	0.14	0.66	0.14	0.65	0.14	0.64	0.14	0.63	0.13	0.62	0.13	0.61	0.13	0.59	0.13	0.58	0.13	150
160	0.84	0.16	0.83	0.16	0.81	0.16	0.80	0.16	0.79	0.15	0.78	0.15	0.76	0.15	0.75	0.15	0.74	0.14	0.72	0.14	0.71	0.14	160
170	1.00	0.19	0.99	0.18	0.97	0.18	0.96	0.17	0.94	0.17	0.93	0.17	0.91	0.17	0.90	0.16	0.88	0.16	0.86	0.16	0.85	0.15	170
180	1.19	0.21	1.17	0.20	1.15	0.21	1.13	0.20	1.11	0.20	1.10	0.19	1.08	0.19	1.06	0.19	1.04	0.18	1.02	0.18	1.00	0.18	180
190	1.40	0.23	1.37	0.23	1.36	0.22	1.33	0.22	1.31	0.22	1.29	0.21	1.27	0.20	1.25	0.20	1.22	0.20	1.20	0.20	1.18	0.19	190
200	1.63	0.25	1.60	0.25	1.58	0.24	1.55	0.24	1.53	0.23	1.50	0.23	1.47	0.23	1.45	0.22	1.42	0.22	1.40	0.21	1.37	0.21	**200**
210	1.88	0.28	1.85	0.28	1.82	0.27	1.79	0.27	1.76	0.26	1.73	0.26	1.70	0.25	1.67	0.25	1.64	0.24	1.61	0.24	1.58	0.23	210
220	2.16	0.31	2.13	0.30	2.09	0.30	2.06	0.29	2.02	0.28	1.99	0.28	1.95	0.28	1.92	0.27	1.88	0.27	1.85	0.26	1.81	0.26	220
230	2.47	0.32	2.43	0.32	2.39	0.31	2.35	0.31	2.30	0.31	2.27	0.30	2.23	0.30	2.19	0.29	2.15	0.29	2.11	0.29	2.07	0.28	230
240	2.79	0.36	2.75	0.35	2.70	0.35	2.66	0.34	2.61	0.34	2.57	0.33	2.53	0.33	2.48	0.33	2.44	0.32	2.40	0.31	2.35	0.31	240
250	3.15	0.38	3.10	0.38	2.05	0.37	3.00	0.37	2.95	0.36	2.90	0.36	2.86	0.34	2.81	0.34	2.76	0.33	2.71	0.33	2.66	0.32	250
260	3.53	0.42	3.48	0.41	3.42	0.40	3.37	0.39	3.31	0.39	3.26	0.38	3.20	0.38	3.15	0.37	3.09	0.36	3.04	0.35	2.98	0.35	260
270	3.95	0.44	3.89	0.44	3.82	0.43	3.76	0.43	3.70	0.42	3.64	0.41	3.58	0.40	3.52	0.39	3.45	0.40	3.39	0.39	3.33	0.38	270
280	4.39	0.48	4.33	0.47	4.25	0.47	4.19	0.46	4.12	0.45	4.05	0.45	3.98	0.44	3.91	0.43	3.85	0.42	3.78	0.42	3.71	0.41	280
290	4.87	0.51	4.80	0.50	4.72	0.49	4.65	0.48	4.57	0.48	4.50	0.47	4.42	0.46	4.34	0.46	4.27	0.45	4.20	0.43	4.12	0.43	290
300	5.38	0.54	5.30	0.53	5.21	0.53	5.13	0.52	5.05	0.51	4.97	0.50	4.88	0.49	4.80	0.48	4.72	0.47	4.63	0.47	4.55	0.46	**300**
310	5.92	0.58	5.83	0.57	5.74	0.56	5.65	0.55	5.56	0.54	5.47	0.53	5.37	0.53	5.28	0.52	5.19	0.51	5.10	0.50	5.01	0.49	310
320	6.50	0.61	6.40	0.61	6.30	0.60	6.20	0.59	6.10	0.58	6.00	0.57	5.90	0.55	5.80	0.54	5.70	0.53	5.60	0.52	5.50	0.51	320
330	7.11	0.65	7.01	0.63	6.90	0.62	6.79	0.61	6.68	0.60	6.57	0.59	6.45	0.59	6.34	0.58	6.23	0.57	6.12	0.56	6.01	0.55	330
340	7.76	0.68	7.64	0.67	7.52	0.66	7.40	0.65	7.28	0.64	7.16	0.64	7.04	0.63	6.92	0.61	6.80	0.60	6.68	0.59	6.56	0.58	340
350	8.44	0.72	8.31	0.71	8.18	0.70	8.05	0.69	7.92	0.68	7.80	0.66	7.67	0.64	7.53	0.64	7.40	0.63	7.27	0.62	7.14	0.61	350
360	9.16	0.75	9.02	0.74	8.88	0.73	8.74	0.72	8.60	0.71	8.46	0.70	8.31	0.69	8.17	0.68	8.03	0.67	7.89	0.66	7.75	0.65	360
370	9.91	0.80	9.76	0.79	9.61	0.77	9.46	0.76	9.31	0.75	9.16	0.74	9.00	0.73	8.85	0.72	8.70	0.71	8.55	0.69	8.40	0.68	370
380	10.71	0.83	10.55	0.82	10.38	0.81	10.22	0.80	10.06	0.78	9.90	0.77	9.73	0.76	9.57	0.75	9.41	0.73	9.24	0.73	9.08	0.71	380
390	11.54	0.88	11.37	0.86	11.19	0.85	11.02	0.83	10.84	0.82	10.67	0.81	10.49	0.80	10.32	0.78	10.14	0.77	9.97	0.75	9.79	0.74	390
400	12.42	0.91	12.23	0.90	12.04	0.89	11.85	0.87	11.66	0.86	11.48	0.84	11.29	0.83	11.10	0.82	10.91	0.80	10.72	0.79	10.53	0.78	**400**
410	13.33	0.95	13.13	0.94	12.93	0.92	12.72	0.92	12.52	0.90	12.32	0.89	12.12	0.87	11.92	0.86	11.71	0.85	11.51	0.83	11.31	0.82	410
420	14.28	1.00	14.07	0.98	13.85	0.97	13.64	0.95	13.42	0.94	13.21	0.92	12.99	0.91	12.78	0.89	12.56	0.88	12.34	0.87	12.13	0.85	420
430	15.28	1.04	15.05	1.03	14.82	1.01	14.59	1.00	14.36	0.98	14.13	0.97	13.90	0.95	13.67	0.94	13.44	0.92	13.21	0.91	12.98	0.89	430
440	16.32	1.09	16.08	1.07	15.83	1.06	15.59	1.04	15.34	1.02	15.10	1.01	14.85	0.99	14.61	0.97	14.36	0.96	14.12	0.94	13.87	0.93	440
450	17.41	1.12	17.15	1.10	16.89	1.08	16.63	1.06	16.36	1.06	16.11	1.04	15.84	1.02	15.58	1.01	15.32	0.99	15.06	0.98	14.80	0.96	450
460	18.53	1.16	18.25	1.15	17.97	1.13	17.69	1.12	17.42	1.10	17.15	1.08	16.86	1.07	16.59	1.05	16.31	1.04	16.04	1.01	15.76	1.00	460
470	19.69	1.21	19.40	1.19	19.10	1.18	18.81	1.16	18.52	1.14	18.23	1.12	17.93	1.11	17.64	1.09	17.35	1.07	17.05	1.06	16.76	1.04	470
480	20.90	1.26	20.59	1.24	20.28	1.22	19.97	1.21	19.66	1.19	19.35	1.17	19.04	1.15	18.73	1.13	18.42	1.12	18.11	1.10	17.80	1.08	480
490	22.16	1.30	21.83	1.28	21.50	1.27	21.18	1.24	20.85	1.23	20.52	1.21	20.19	1.19	19.86	1.18	19.54	1.15	19.21	1.14	18.88	1.12	490
500	23.46		23.11		22.77		22.42		22.08		21.73		21.38		21.04		20.69		20.35		20.00		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 1200—1300.

	1200	Diff.	1210	Diff.	1220	Diff.	1230	Diff.	1240	Diff.	1250	Diff.	1260	Diff.	1270	Diff.	1280	Diff.	1290	Diff.	1300	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**10**
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**20**
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	**30**
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	**40**
50	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**50**
60	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	**60**
70	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	**70**
80	0·09	0·04	0·09	0·04	0·09	0·04	0·09	0·03	0·09	0·03	0·09	0·03	0·08	0·04	0·08	0·04	0·08	0·03	0·08	0·03	0·08	0·03	**80**
90	0·13	0·04	0·13	0·04	0·13	0·04	0·12	0·04	0·12	0·04	0·12	0·04	0·12	0·04	0·12	0·04	0·11	0·04	0·11	0·04	0·11	0·04	**90**
100	0·17	0·06	0·17	0·06	0·17	0·05	0·16	0·06	0·16	0·06	0·16	0·06	0·16	0·05	0·16	0·05	0·15	0·05	0·15	0·05	0·15	0·05	**100**
110	0·23	0·07	0·23	0·07	0·22	0·07	0·22	0·07	0·22	0·06	0·22	0·06	0·21	0·06	0·21	0·06	0·20	0·06	0·20	0·06	0·20	0·06	**110**
120	0·30	0·08	0·30	0·07	0·29	0·08	0·29	0·07	0·28	0·08	0·28	0·07	0·27	0·07	0·27	0·07	0·26	0·07	0·26	0·07	0·26	0·06	**120**
130	0·38	0·09	0·37	0·09	0·37	0·09	0·36	0·09	0·36	0·08	0·35	0·09	0·34	0·09	0·34	0·08	0·33	0·08	0·33	0·08	0·32	0·08	**130**
140	0·47	0·11	0·46	0·11	0·46	0·10	0·45	0·10	0·44	0·10	0·44	0·10	0·43	0·10	0·42	0·10	0·41	0·10	0·41	0·09	0·40	0·09	**140**
150	0·58	0·13	0·57	0·13	0·56	0·12	0·55	0·12	0·54	0·12	0·54	0·12	0·53	0·11	0·52	0·11	0·51	0·11	0·50	0·11	0·49	0·11	**150**
160	0·71	0·14	0·70	0·14	0·68	0·14	0·67	0·14	0·66	0·13	0·66	0·13	0·64	0·13	0·63	0·13	0·62	0·12	0·61	0·12	0·60	0·12	**160**
170	0·85	0·15	0·84	0·15	0·82	0·15	0·81	0·15	0·79	0·15	0·79	0·14	0·77	0·14	0·76	0·14	0·74	0·14	0·73	0·14	0·72	0·13	**170**
180	1·00	0·18	0·99	0·17	0·97	0·17	0·96	0·17	0·94	0·17	0·93	0·16	0·91	0·16	0·90	0·15	0·88	0·16	0·87	0·15	0·85	0·15	**180**
190	1·18	0·19	1·16	0·19	1·14	0·19	1·13	0·18	1·11	0·18	1·09	0·18	1·07	0·18	1·05	0·18	1·04	0·17	1·02	0·17	1·00	0·17	**190**
200	1·37	0·21	1·35	0·21	1·33	0·21	1·31	0·20	1·29	0·20	1·27	0·20	1·25	0·19	1·23	0·19	1·21	0·19	1·19	0·18	1·17	0·18	**200**
210	1·58	0·23	1·56	0·23	1·54	0·23	1·51	0·22	1·49	0·22	1·47	0·22	1·44	0·21	1·42	0·21	1·40	0·20	1·37	0·21	1·35	0·20	**210**
220	1·81	0·26	1·79	0·25	1·77	0·24	1·73	0·25	1·71	0·24	1·69	0·23	1·65	0·24	1·63	0·23	1·60	0·23	1·58	0·22	1·55	0·22	**220**
230	2·07	0·28	2·04	0·28	2·01	0·27	1·98	0·27	1·95	0·26	1·92	0·26	1·89	0·26	1·86	0·25	1·83	0·25	1·80	0·24	1·77	0·24	**230**
240	2·35	0·31	2·32	0·30	2·28	0·29	2·25	0·29	2·21	0·29	2·18	0·29	2·15	0·28	2·11	0·28	2·08	0·27	2·04	0·27	2·01	0·26	**240**
250	2·66	0·32	2·62	0·32	2·57	0·32	2·54	0·31	2·50	0·31	2·47	0·30	2·43	0·29	2·39	0·29	2·35	0·29	2·31	0·28	2·27	0·28	**250**
260	2·98	0·35	2·94	0·34	2·89	0·34	2·85	0·34	2·81	0·33	2·77	0·32	2·72	0·32	2·68	0·31	2·64	0·31	2·59	0·31	2·55	0·30	**260**
270	3·33	0·38	3·28	0·38	3·23	0·37	3·19	0·36	3·14	0·35	3·09	0·35	3·04	0·35	2·99	0·34	2·95	0·33	2·90	0·33	2·85	0·32	**270**
280	3·71	0·41	3·66	0·40	3·60	0·40	3·55	0·39	3·49	0·39	3·44	0·38	3·39	0·37	3·33	0·37	3·28	0·36	3·23	0·35	3·17	0·35	**280**
290	4·12	0·43	4·06	0·42	4·00	0·42	3·94	0·41	3·88	0·41	3·82	0·40	3·76	0·39	3·70	0·39	3·64	0·38	3·58	0·38	3·52	0·37	**290**
300	4·55	0·46	4·48	0·46	4·42	0·45	4·35	0·44	4·29	0·43	4·22	0·43	4·15	0·43	4·09	0·42	4·02	0·41	3·96	0·40	3·89	0·40	**300**
310	5·01	0·49	4·94	0·48	4·87	0·47	4·79	0·47	4·72	0·46	4·65	0·45	4·58	0·45	4·51	0·44	4·43	0·43	4·36	0·43	4·29	0·42	**310**
320	5·50	0·51	5·42	0·50	5·34	0·50	5·26	0·49	5·18	0·49	5·10	0·48	5·03	0·47	4·95	0·46	4·86	0·46	4·79	0·45	4·71	0·44	**320**
330	6·01	0·55	5·92	0·54	5·84	0·53	5·75	0·53	5·67	0·52	5·58	0·51	5·50	0·50	5·41	0·49	5·32	0·49	5·24	0·47	5·15	0·47	**330**
340	6·56	0·58	6·46	0·58	6·37	0·57	6·28	0·56	6·19	0·55	6·09	0·54	6·00	0·53	5·90	0·53	5·81	0·52	5·71	0·51	5·62	0·50	**340**
350	7·14	0·61	7·04	0·60	6·94	0·59	6·84	0·58	6·74	0·57	6·63	0·57	6·53	0·56	6·43	0·55	6·33	0·54	6·22	0·54	6·12	0·53	**350**
360	7·75	0·65	7·64	0·64	7·53	0·63	7·42	0·62	7·31	0·61	7·20	0·61	7·09	0·60	6·98	0·59	6·87	0·58	6·76	0·57	6·65	0·56	**360**
370	8·40	0·68	8·28	0·67	8·16	0·66	8·04	0·65	7·92	0·64	7·81	0·63	7·69	0·62	7·57	0·61	7·45	0·60	7·33	0·59	7·21	0·58	**370**
380	9·08	0·71	8·95	0·70	8·82	0·69	8·69	0·68	8·56	0·67	8·44	0·66	8·31	0·65	8·18	0·64	8·05	0·63	7·92	0·62	7·79	0·61	**380**
390	9·79	0·74	9·65	0·73	9·51	0·72	9·37	0·71	9·23	0·70	9·10	0·69	8·96	0·68	8·82	0·67	8·68	0·66	8·54	0·65	8·40	0·64	**390**
400	10·53	0·78	10·38	0·77	10·23	0·76	10·08	0·75	9·93	0·74	9·79	0·73	9·64	0·71	9·49	0·70	9·34	0·69	9·19	0·68	9·04	0·67	**400**
410	11·31	0·82	11·15	0·81	10·99	0·80	10·83	0·79	10·67	0·78	10·52	0·76	10·35	0·75	10·19	0·74	10·03	0·73	9·87	0·72	9·71	0·71	**410**
420	12·13	0·85	11·96	0·84	11·79	0·83	11·62	0·82	11·45	0·80	11·28	0·79	11·10	0·79	10·93	0·78	10·76	0·76	10·59	0·75	10·42	0·74	**420**
430	12·98	0·89	12·80	0·88	12·62	0·86	12·44	0·85	12·25	0·84	12·07	0·83	11·89	0·82	11·71	0·80	11·52	0·79	11·34	0·78	11·16	0·77	**430**
440	13·87	0·93	13·68	0·91	13·48	0·91	13·29	0·89	13·09	0·88	12·90	0·87	12·71	0·85	12·51	0·84	12·31	0·83	12·12	0·82	11·93	0·80	**440**
450	14·80	0·96	14·59	0·95	14·39	0·93	14·18	0·92	13·97	0·91	13·77	0·89	13·56	0·88	13·35	0·87	13·14	0·86	12·94	0·84	12·73	0·83	**450**
460	15·76	1·00	15·54	0·99	15·32	0·97	15·10	0·96	14·88	0·95	14·66	0·94	14·44	0·92	14·22	0·91	14·00	0·90	13·78	0·88	13·56	0·87	**460**
470	16·76	1·04	16·53	1·02	16·29	1·02	16·06	1·00	15·83	0·98	15·60	0·97	15·36	0·96	15·13	0·94	14·90	0·93	14·66	0·92	14·43	0·90	**470**
480	17·80	1·08	17·55	1·07	17·31	1·05	17·06	1·04	16·81	1·03	16·57	1·01	16·32	0·99	16·07	0·98	15·83	0·96	15·58	0·95	15·33	0·94	**480**
490	18·88	1·12	18·62	1·10	18·36	1·09	18·10	1·07	17·84	1·06	17·58	1·04	17·31	1·03	17·05	1·02	16·79	1·00	16·53	0·99	16·27	0·97	**490**
500	20·00		19·72		19·45		19·17		18·90		18·62		18·34		18·07		17·79		17·52		17·24		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 1300—1400.

	1300	Diff.	1310	Diff.	1320	Diff.	1330	Diff.	1340	Diff.	1350	Diff.	1360	Diff.	1370	Diff.	1380	Diff.	1390	Diff.	1400	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**10**
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**20**
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	**30**
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	**40**
50	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**50**
60	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	**60**
70	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	**70**
80	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	**80**
90	0·11	0·04	0·11	0·04	0·11	0·04	0·11	0·03	0·11	0·03	0·11	0·03	0·10	0·04	0·10	0·04	0·10	0·03	0·10	0·03	0·10	0·03	**90**
100	0·15	0·05	0·15	0·05	0·15	0·04	0·14	0·05	0·14	0·05	0·14	0·05	0·14	0·04	0·14	0·04	0·13	0·05	0·13	0·04	0·13	0·04	**100**
110	0·20	0·06	0·20	0·06	0·19	0·06	0·19	0·06	0·19	0·05	0·19	0·05	0·18	0·06	0·18	0·05	0·18	0·05	0·17	0·05	0·17	0·05	**110**
120	0·26	0·06	0·26	0·06	0·25	0·06	0·25	0·06	0·24	0·06	0·24	0·06	0·24	0·06	0·23	0·06	0·23	0·06	0·22	0·06	0·22	0·06	**120**
130	0·32	0·08	0·32	0·08	0·31	0·08	0·31	0·08	0·30	0·08	0·30	0·08	0·30	0·07	0·29	0·08	0·29	0·07	0·28	0·08	0·28	0·07	**130**
140	0·40	0·09	0·40	0·08	0·39	0·09	0·39	0·08	0·38	0·09	0·38	0·08	0·37	0·08	0·37	0·08	0·36	0·08	0·36	0·08	0·35	0·08	**140**
150	0·49	0·11	0·48	0·11	0·48	0·10	0·47	0·11	0·47	0·10	0·46	0·10	0·45	0·10	0·45	0·09	0·44	0·10	0·44	0·09	0·43	0·09	**150**
160	0·60	0·12	0·59	0·12	0·58	0·12	0·58	0·11	0·57	0·11	0·56	0·11	0·55	0·11	0·54	0·11	0·54	0·10	0·53	0·10	0·52	0·10	**160**
170	0·72	0·13	0·71	0·13	0·70	0·13	0·69	0·13	0·68	0·13	0·67	0·13	0·66	0·12	0·65	0·12	0·64	0·12	0·63	0·12	0·62	0·12	**170**
180	0·85	0·15	0·84	0·15	0·83	0·14	0·82	0·14	0·81	0·14	0·80	0·14	0·78	0·14	0·77	0·14	0·76	0·13	0·75	0·13	0·74	0·13	**180**
190	1·00	0·17	0·99	0·16	0·97	0·16	0·96	0·16	0·95	0·16	0·94	0·15	0·92	0·15	0·91	0·15	0·89	0·15	0·88	0·15	0·87	0·14	**190**
200	1·17	0·18	1·15	0·18	1·13	0·18	1·12	0·18	1·11	0·17	1·09	0·17	1·07	0·17	1·06	0·16	1·04	0·16	1·03	0·16	1·01	0·16	**200**
210	1·35	0·20	1·33	0·20	1·31	0·20	1·30	0·19	1·28	0·19	1·26	0·19	1·24	0·18	1·22	0·18	1·20	0·18	1·19	0·17	1·17	0·17	**210**
220	1·55	0·22	1·53	0·22	1·51	0·21	1·49	0·21	1·47	0·20	1·45	0·20	1·42	0·21	1·40	0·20	1·38	0·20	1·36	0·19	1·34	0·19	**220**
230	1·77	0·24	1·75	0·23	1·72	0·24	1·70	0·23	1·67	0·23	1·65	0·23	1·63	0·22	1·60	0·22	1·58	0·21	1·55	0·21	1·53	0·21	**230**
240	2·01	0·26	1·98	0·26	1·96	0·25	1·93	0·25	1·90	0·25	1·88	0·24	1·85	0·23	1·82	0·23	1·79	0·23	1·76	0·23	1·74	0·22	**240**
250	2·27	0·28	2·24	0·28	2·21	0·27	2·18	0·27	2·15	0·26	2·12	0·26	2·08	0·26	2·05	0·26	2·02	0·25	1·99	0·25	1·96	0·24	**250**
260	2·55	0·30	2·52	0·29	2·48	0·29	2·45	0·28	2·41	0·28	2·38	0·28	2·34	0·28	2·31	0·27	2·27	0·27	2·24	0·26	2·20	0·26	**260**
270	2·85	0·32	2·81	0·32	2·77	0·32	2·73	0·31	2·69	0·31	2·66	0·30	2·62	0·30	2·58	0·29	2·54	0·29	2·50	0·28	2·46	0·28	**270**
280	3·17	0·35	3·13	0·34	3·09	0·34	3·04	0·33	3·00	0·33	2·96	0·33	2·92	0·32	2·87	0·32	2·83	0·31	2·78	0·31	2·74	0·31	**280**
290	3·52	0·37	3·47	0·37	3·43	0·36	3·37	0·36	3·33	0·35	3·29	0·34	3·24	0·34	3·19	0·34	3·14	0·33	3·09	0·33	3·05	0·32	**290**
300	3·89	0·40	3·84	0·39	3·79	0·38	3·73	0·39	3·68	0·38	3·63	0·37	3·58	0·36	3·53	0·35	3·47	0·36	3·42	0·35	3·37	0·34	**300**
310	4·29	0·42	4·23	0·42	4·17	0·41	4·12	0·40	4·06	0·39	4·00	0·39	3·94	0·39	3·88	0·38	3·83	0·37	3·77	0·36	3·71	0·36	**310**
320	4·71	0·44	4·65	0·43	4·58	0·43	4·52	0·42	4·45	0·42	4·39	0·42	4·33	0·41	4·26	0·41	4·20	0·40	4·13	0·40	4·07	0·39	**320**
330	5·15	0·47	5·08	0·47	5·01	0·46	4·94	0·46	4·87	0·45	4·81	0·44	4·74	0·43	4·67	0·43	4·60	0·42	4·53	0·42	4·46	0·41	**330**
340	5·62	0·50	5·55	0·49	5·47	0·49	5·40	0·47	5·32	0·47	5·25	0·46	5·17	0·46	5·10	0·45	5·02	0·45	4·95	0·43	4·87	0·43	**340**
350	6·12	0·53	6·04	0·52	5·96	0·51	5·87	0·51	5·79	0·50	5·71	0·50	5·63	0·49	5·55	0·48	5·47	0·47	5·38	0·47	5·30	0·46	**350**
360	6·65	0·56	6·56	0·55	6·47	0·54	6·38	0·54	6·29	0·53	6·21	0·52	6·12	0·51	6·03	0·51	5·94	0·50	5·85	0·50	5·76	0·49	**360**
370	7·21	0·58	7·11	0·58	7·01	0·57	6·92	0·56	6·82	0·56	6·73	0·55	6·63	0·54	6·54	0·53	6·44	0·52	6·35	0·51	6·25	0·51	**370**
380	7·79	0·61	7·69	0·60	7·58	0·60	7·48	0·59	7·38	0·58	7·28	0·57	7·17	0·56	7·07	0·55	6·96	0·55	6·86	0·54	6·76	0·53	**380**
390	8·40	0·64	8·29	0·63	8·18	0·62	8·07	0·61	7·96	0·60	7·85	0·60	7·73	0·59	7·62	0·58	7·51	0·58	7·40	0·57	7·29	0·56	**390**
400	9·04	0·67	8·92	0·66	8·80	0·65	8·68	0·65	8·56	0·64	8·45	0·63	8·32	0·62	8·20	0·61	8·09	0·60	7·97	0·59	7·85	0·58	**400**
410	9·71	0·71	9·58	0·70	9·45	0·69	9·33	0·68	9·20	0·67	9·08	0·66	8·94	0·66	8·81	0·65	8·69	0·63	8·56	0·63	8·43	0·62	**410**
420	10·42	0·74	10·28	0·73	10·14	0·73	10·01	0·71	9·87	0·70	9·74	0·69	9·60	0·68	9·46	0·67	9·32	0·66	9·19	0·65	9·05	0·64	**420**
430	11·16	0·77	11·01	0·76	10·87	0·75	10·72	0·74	10·57	0·73	10·43	0·72	10·28	0·71	10·13	0·70	9·98	0·69	9·84	0·68	9·69	0·67	**430**
440	11·93	0·80	11·77	0·79	11·62	0·78	11·46	0·77	11·30	0·76	11·15	0·75	10·99	0·74	10·83	0·73	10·67	0·72	10·52	0·71	10·36	0·70	**440**
450	12·73	0·83	12·56	0·82	12·40	0·81	12·23	0·80	12·06	0·79	11·90	0·78	11·73	0·77	11·56	0·76	11·39	0·75	11·23	0·74	11·06	0·73	**450**
460	13·56	0·87	13·38	0·86	13·21	0·84	13·03	0·84	12·85	0·83	12·68	0·81	12·50	0·80	12·32	0·79	12·14	0·78	11·97	0·77	11·79	0·76	**460**
470	14·43	0·90	14·24	0·89	14·05	0·88	13·87	0·86	13·68	0·85	13·49	0·84	13·30	0·83	13·11	0·82	12·92	0·81	12·74	0·79	12·55	0·78	**470**
480	15·33	0·94	15·13	0·93	14·93	0·92	14·73	0·90	14·53	0·89	14·33	0·88	14·13	0·87	13·93	0·86	13·73	0·84	13·53	0·83	13·33	0·82	**480**
490	16·27	0·97	16·06	0·96	15·85	0·94	15·63	0·94	15·42	0·92	15·21	0·91	15·00	0·90	14·79	0·88	14·57	0·88	14·36	0·86	14·15	0·85	**490**
500	17·24		17·02		16·79		16·57		16·34		16·12		15·90		15·67		15·45		15·22		15·00		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 1400—1500.

	1400	Diff.	1410	Diff.	1420	Diff.	1430	Diff.	1440	Diff.	1450	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
50	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
60	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02
70	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02
80	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·02	0·07	0·02	0·07	0·02
90	0·10	0·03	0·10	0·03	0·10	0·03	0·09	0·03	0·09	0·03	0·09	0·03
100	0·13	0·04	0·13	0·04	0·13	0·04	0·12	0·04	0·12	0·04	0·12	0·04
110	0·17	0·05	0·17	0·05	0·17	0·04	0·16	0·05	0·16	0·05	0·16	0·05
120	0·22	0·06	0·22	0·06	0·21	0·06	0·21	0·06	0·21	0·05	0·21	0·05
130	0·28	0·07	0·28	0·07	0·27	0·07	0·27	0·07	0·26	0·07	0·26	0·07
140	0·35	0·08	0·35	0·07	0·34	0·08	0·34	0·07	0·33	0·08	0·33	0·07
150	0·43	0·09	0·42	0·09	0·42	0·09	0·41	0·09	0·41	0·08	0·40	0·09
160	0·52	0·10	0·51	0·10	0·51	0·10	0·50	0·10	0·49	0·10	0·49	0·09
170	0·62	0·12	0·61	0·12	0·61	0·11	0·60	0·11	0·59	0·11	0·58	0·11
180	0·74	0·13	0·73	0·13	0·72	0·13	0·71	0·13	0·70	0·13	0·69	0·13
190	0·87	0·14	0·86	0·14	0·85	0·13	0·84	0·13	0·83	0·13	0·82	0·13
200	1·01	0·16	1·00	0·16	0·98	0·16	0·97	0·15	0·96	0·15	0·95	0·15
210	1·17	0·17	1·16	0·16	1·14	0·17	1·12	0·17	1·11	0·16	1·10	0·16
220	1·34	0·19	1·32	0·19	1·31	0·18	1·29	0·18	1·27	0·18	1·26	0·18
230	1·53	0·21	1·51	0·21	1·49	0·20	1·47	0·20	1·45	0·20	1·44	0·19
240	1·74	0·22	1·72	0·22	1·69	0·22	1·67	0·22	1·65	0·21	1·63	0·21
250	1·96	0·24	1·94	0·23	1·91	0·23	1·89	0·23	1·86	0·23	1·84	0·22
260	2·20	0·26	2·17	0·26	2·14	0·26	2·12	0·25	2·09	0·25	2·06	0·25
270	2·46	0·28	2·43	0·28	2·40	0·27	2·37	0·27	2·34	0·26	2·31	0·26
280	2·74	0·31	2·71	0·30	2·67	0·30	2·64	0·29	2·60	0·29	2·57	0·29
290	3·05	0·32	3·01	0·32	2·97	0·31	2·93	0·31	2·89	0·31	2·86	0·30
300	3·37	0·34	3·33	0·33	3·28	0·33	3·24	0·33	3·20	0·32	3·16	0·32
310	3·71	0·36	3·66	0·36	3·61	0·36	3·57	0·35	3·52	0·35	3·48	0·34
320	4·07	0·39	4·02	0·38	4·97	0·38	3·92	0·37	3·87	0·37	3·82	0·36
330	4·46	0·41	4·40	0·40	4·35	0·40	4·29	0·40	4·24	0·39	4·18	0·39
340	4·87	0·43	4·80	0·43	4·75	0·42	4·69	0·41	4·63	0·41	4·57	0·40
350	5·30	0·46	5·23	0·46	5·17	0·45	5·10	0·44	5·04	0·43	4·97	0·43
360	5·76	0·49	5·69	0·48	5·62	0·47	5·54	0·47	5·47	0·46	5·40	0·46
370	6·25	0·51	6·17	0·50	6·09	0·50	6·01	0·49	5·93	0·49	5·86	0·48
380	6·76	0·53	6·67	0·53	6·59	0·52	6·50	0·52	6·42	0·51	6·34	0·50
390	7·29	0·56	7·20	0·55	7·11	0·54	7·02	0·54	6·93	0·53	6·84	0·52
400	7·85	0·58	7·75	0·58	7·65	0·57	7·56	0·56	7·46	0·55	7·36	0·55
410	8·43	0·62	8·33	0·61	8·22	0·60	8·12	0·59	8·01	0·59	7·91	0·58
420	9·05	0·64	8·94	0·63	8·82	0·63	8·71	0·62	8·60	0·61	8·49	0·60
430	9·69	0·67	9·57	0·66	9·45	0·65	9·33	0·65	9·21	0·64	9·09	0·63
440	10·36	0·70	10·23	0·69	10·10	0·69	9·98	0·67	9·85	0·66	9·72	0·66
450	11·06	0·73	10·92	0·72	10·79	0·71	10·65	0·70	10·51	0·70	10·38	0·68
460	11·79	0·76	11·64	0·75	11·50	0·74	11·35	0·73	11·21	0·72	11·06	0·72
470	12·55	0·78	12·39	0·78	12·24	0·76	12·08	0·76	11·93	0·75	11·78	0·74
480	13·33	0·82	13·17	0·81	13·00	0·80	12·84	0·79	12·68	0·78	12·52	0·77
490	14·15	0·85	13·98	0·84	13·80	0·83	13·63	0·82	13·46	0·81	13·29	0·80
500	15·00		14·82		14·63		14·45		14·27		14·09	

1460	Diff.	1470	Diff.	1480	Diff.	1490	Diff.	1500	Diff.	
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	30
0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	40
0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	50
0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	60
0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	70
0·06	0·03	0·06	0·03	0·06	0·02	0·06	0·02	0·06	0·02	80
0·09	0·03	0·09	0·03	0·08	0·03	0·08	0·03	0·08	0·03	90
0·12	0·04	0·12	0·04	0·11	0·04	0·11	0·04	0·11	0·04	**100**
0·16	0·04	0·16	0·04	0·15	0·05	0·15	0·04	0·15	0·04	110
0·20	0·06	0·20	0·05	0·20	0·05	0·19	0·05	0·19	0·05	120
0·26	0·06	0·25	0·07	0·25	0·06	0·24	0·07	0·24	0·06	130
0·32	0·07	0·32	0·07	0·31	0·07	0·31	0·07	0·30	0·07	140
0·39	0·09	0·39	0·08	0·38	0·08	0·38	0·08	0·37	0·08	150
0·48	0·09	0·47	0·09	0·46	0·10	0·46	0·09	0·45	0·09	160
0·57	0·11	0·56	0·11	0·56	0·10	0·55	0·10	0·54	0·10	170
0·68	0·12	0·67	0·12	0·66	0·12	0·65	0·12	0·64	0·12	180
0·80	0·13	0·79	0·13	0·78	0·13	0·77	0·13	0·76	0·12	190
0·93	0·15	0·92	0·14	0·91	0·14	0·90	0·14	0·88	0·14	**200**
1·08	0·16	1·06	0·16	1·05	0·15	1·04	0·15	1·02	0·15	210
1·24	0·18	1·22	0·18	1·20	0·17	1·19	0·17	1·17	0·17	220
1·42	0·19	1·40	0·19	1·37	0·19	1·36	0·18	1·34	0·18	230
1·61	0·20	1·59	0·20	1·56	0·20	1·54	0·20	1·52	0·19	240
1·81	0·22	1·79	0·21	1·76	0·22	1·74	0·21	1·71	0·21	250
2·03	0·24	2·00	0·24	1·98	0·23	1·95	0·23	1·92	0·23	260
2·27	0·27	2·24	0·26	2·21	0·26	2·18	0·25	2·15	0·25	270
2·54	0·28	2·50	0·28	2·47	0·27	2·43	0·27	2·40	0·26	280
2·82	0·29	2·78	0·29	2·74	0·29	2·70	0·28	2·66	0·28	290
3·11	0·32	3·07	0·31	3·03	0·30	2·98	0·30	2·94	0·30	**300**
3·43	0·33	3·38	0·33	3·33	0·33	3·28	0·33	3·24	0·32	310
3·76	0·36	3·71	0·36	3·66	0·35	3·61	0·35	3·56	0·34	320
4·12	0·38	4·07	0·37	4·01	0·37	3·96	0·36	3·90	0·36	330
4·50	0·40	4·44	0·40	4·38	0·39	4·32	0·38	4·26	0·38	340
4·90	0·43	4·84	0·42	4·77	0·41	4·70	0·41	4·64	0·40	350
5·33	0·45	5·26	0·44	5·18	0·44	5·11	0·43	5·04	0·42	360
5·78	0·47	5·70	0·47	5·62	0·46	5·54	0·45	5·46	0·45	370
6·25	0·49	6·17	0·48	6·08	0·48	5·99	0·48	5·91	0·47	380
6·74	0·52	6·65	0·51	6·56	0·51	6·47	0·10	6·38	0·49	390
7·26	0·54	7·16	0·54	7·07	0·53	6·97	0·52	6·87	0·51	**400**
7·80	0·57	7·70	0·56	7·60	0·55	7·49	0·54	7·38	0·54	410
8·37	0·60	8·26	0·59	8·15	0·58	8·03	0·58	7·92	0·57	420
8·97	0·62	8·85	0·61	8·73	0·61	8·61	0·60	8·49	0·59	430
9·59	0·65	9·46	0·64	9·34	0·62	9·21	0·62	9·08	0·61	440
10·24	0·67	10·10	0·67	9·96	0·66	9·83	0·65	9·69	0·64	450
10·91	0·71	10·77	0·70	10·62	0·69	10·48	0·68	10·33	0·67	460
11·62	0·73	11·47	0·72	11·31	0·72	11·16	0·70	11·00	0·70	470
12·35	0·76	12·19	0·75	12·03	0·74	11·86	0·73	11·70	0·72	480
13·11	0·79	12·94	0·78	12·77	0·77	12·59	0·76	12·42	0·75	490
13·90		13·72		13·54		13·35		13·17		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 1500—1600.

	1500	Diff.	1510	Diff.	1520	Diff.	1530	Diff.	1540	Diff.	1550	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
60	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02
70	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02
80	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02
90	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03
100	0·11	0·04	0·11	0·04	0·11	0·04	0·11	0·03	0·11	0·03	0·11	0·03
110	0·15	0·04	0·15	0·04	0·15	0·04	0·14	0·04	0·14	0·04	0·14	0·04
120	0·19	0·05	0·19	0·05	0·19	0·04	0·18	0·05	0·18	0·05	0·18	0·05
130	0·24	0·06	0·24	0·06	0·23	0·06	0·23	0·06	0·23	0·06	0·23	0·06
140	0·30	0·07	0·30	0·07	0·29	0·07	0·29	0·07	0·29	0·06	0·29	0·06
150	0·37	0·08	0·37	0·08	0·36	0·08	0·36	0·08	0·35	0·08	0·35	0·08
160	0·45	0·09	0·45	0·08	0·44	0·09	0·44	0·08	0·43	0·09	0·43	0·08
170	0·54	0·10	0·53	0·10	0·53	0·10	0·52	0·10	0·52	0·09	0·51	0·10
180	0·64	0·12	0·63	0·12	0·63	0·11	0·62	0·11	0·61	0·11	0·61	0·11
190	0·76	0·12	0·75	0·12	0·74	0·12	0·73	0·12	0·72	0·12	0·72	0·11
200	1·88	0·14	0·87	0·14	0·86	0·14	0·85	0·13	0·84	0·13	0·83	0·13
210	1·02	0·15	1·01	0·15	1·00	0·15	0·98	0·15	0·97	0·15	0·96	0·14
220	1·17	0·17	1·16	0·16	1·15	0·16	1·13	0·16	1·12	0·16	1·10	0·16
230	1·34	0·18	1·32	0·18	1·31	0·17	1·29	0·18	1·28	0·17	1·26	0·17
240	1·52	0·19	1·50	0·19	1·48	0·19	1·47	0·18	1·45	0·18	1·43	0·18
250	1·71	0·21	1·69	0·21	1·67	0·20	1·65	0·20	1·63	0·20	1·61	0·20
260	1·92	0·23	1·90	0·22	1·87	0·23	1·85	0·22	1·83	0·22	1·81	0·21
270	2·15	0·25	2·12	0·25	2·10	0·24	2·07	0·24	2·05	0·23	2·02	0·23
280	2·40	0·26	2·37	0·26	2·34	0·26	2·31	0·25	2·28	0·25	2·25	0·25
290	2·66	0·28	2·63	0·28	2·60	0·27	2·56	0·28	2·53	0·27	2·50	0·27
300	2·94	0·30	2·91	0·29	2·87	0·29	2·84	0·29	2·80	0·29	2·77	0·28
310	3·24	0·32	3·20	0·32	3·16	0·32	3·13	0·30	3·09	0·30	3·05	0·30
320	3·56	0·34	3·52	0·33	3·48	0·33	3·43	0·33	3·39	0·33	3·35	0·32
330	3·90	0·36	3·85	0·36	3·81	0·35	3·76	0·35	3·72	0·34	3·67	0·34
340	4·26	0·38	4·21	0·38	4·16	0·37	4·11	0·37	4·06	0·36	4·01	0·36
350	4·64	0·40	4·59	0·39	4·53	0·39	4·48	0·38	4·42	0·38	4·37	0·37
360	5·04	0·42	4·98	0·42	4·92	0·41	4·86	0·41	4·80	0·40	4·74	0·40
370	5·46	0·45	5·40	0·44	5·33	0·44	5·27	0·43	5·20	0·43	5·14	0·42
380	5·91	0·47	5·84	0·47	5·77	0·46	5·70	0·46	5·63	0·45	5·56	0·45
390	6·38	0·49	6·31	0·48	6·23	0·48	6·16	0·47	6·08	0·47	6·01	0·46
400	6·87	0·51	6·79	0·51	6·71	0·50	6·63	0·49	6·55	0·49	6·47	0·48
410	7·38	0·54	7·30	0·53	7·21	0·53	7·12	0·52	7·04	0·51	6·95	0·51
420	7·92	0·57	7·83	0·56	7·74	0·55	7·64	0·55	7·55	0·54	7·46	0·54
430	8·49	0·59	8·39	0·58	8·29	0·58	8·19	0·57	8·09	0·57	8·00	0·55
440	9·08	0·61	8·97	0·61	8·87	0·60	8·76	0·59	8·66	0·58	8·55	0·58
450	9·69	0·64	9·58	0·63	9·47	0·62	9·35	0·62	9·24	0·61	9·13	0·60
460	10·33	0·67	10·21	0·66	10·09	0·65	9·97	0·65	9·85	0·64	9·73	0·63
470	11·00	0·70	10·87	0·69	10·74	0·69	10·62	0·67	10·49	0·67	10·36	0·66
480	11·70	0·72	11·56	0·72	11·43	0·70	11·29	0·70	11·16	0·68	11·02	0·68
490	12·42	0·75	12·28	0·74	12·13	0·73	11·99	0·72	11·84	0·72	11·70	0·71
500	13·17		13·02		12·86		12·71		12·56		12·41	

	1560	Diff.	1570	Diff.	1580	Diff.	1590	Diff.	1600	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
60	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
70	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02
80	0·05	0·02	0·15	0·02	0·05	0·02	0·05	0·02	0·05	0·02
90	0·07	0·03	0·17	0·03	0·07	0·03	0·07	0·03	0·07	0·03
100	0·10	0·04	0·10	0·04	0·10	0·03	0·10	0·03	0·10	0·03
110	0·14	0·04	0·14	0·04	0·13	0·04	0·13	0·04	0·13	0·04
120	0·18	0·04	0·18	0·04	0·17	0·05	0·17	0·04	0·17	0·04
130	0·22	0·06	0·22	0·06	0·22	0·06	0·21	0·06	0·21	0·06
140	0·28	0·07	0·28	0·06	0·28	0·06	0·27	0·06	0·27	0·05
150	0·35	0·07	0·34	0·08	0·34	0·07	0·33	0·08	0·33	0·07
160	0·42	0·08	0·42	0·08	0·41	0·08	0·41	0·08	0·40	0·08
170	0·50	0·10	0·50	0·09	0·49	0·09	0·49	0·09	0·48	0·09
180	0·60	0·11	0·59	0·11	0·58	0·11	0·58	0·10	0·57	0·10
190	0·71	0·11	0·70	0·11	0·69	0·11	0·68	0·11	0·67	0·11
200	0·82	0·13	0·81	0·13	0·80	0·12	0·79	0·12	0·78	0·12
210	0·95	0·14	0·94	0·14	0·92	0·14	0·91	0·14	0·90	0·13
220	1·09	0·15	1·08	0·15	1·06	0·15	1·05	0·15	1·03	0·15
230	1·24	0·17	1·23	0·16	1·21	0·17	1·20	0·16	1·18	0·16
240	1·41	0·18	1·39	0·18	1·38	0·17	1·36	0·17	1·34	0·17
250	1·59	0·19	1·57	0·19	1·55	0·19	1·53	0·18	1·51	0·18
260	1·78	0·21	1·76	0·21	1·74	0·20	1·71	0·21	1·69	0·20
270	1·99	0·24	1·97	0·23	1·94	0·22	1·92	0·22	1·89	0·22
280	2·23	0·24	2·20	0·24	2·16	0·24	2·14	0·23	2·11	0·23
290	2·47	0·26	2·44	0·26	2·40	0·26	2·37	0·26	2·34	0·25
300	2·73	0·28	2·70	0·27	2·66	0·27	2·63	0·27	2·59	0·27
310	3·01	0·30	2·97	0·30	2·93	0·29	2·90	0·28	2·86	0·28
320	3·31	0·31	3·27	0·31	3·22	0·31	3·18	0·31	3·14	0·30
330	3·62	0·34	3·58	0·33	3·53	0·33	3·49	0·32	3·44	0·32
340	3·96	0·35	3·91	0·35	3·86	0·34	3·81	0·34	3·76	0·33
350	4·31	0·37	4·26	0·36	4·20	0·36	4·15	0·35	4·09	0·35
360	4·68	0·39	4·62	0·39	4·56	0·39	4·50	0·38	4·44	0·38
370	5·07	0·42	5·01	0·41	4·95	0·40	4·88	0·40	4·82	0·39
380	5·49	0·44	5·42	0·43	5·35	0·42	5·28	0·42	5·21	0·42
390	5·93	0·45	5·85	0·45	5·77	0·45	5·70	0·44	5·63	0·43
400	6·38	0·48	6·30	0·48	6·22	0·47	6·14	0·46	6·06	0·46
410	6·86	0·51	6·78	0·50	6·69	0·49	6·60	0·49	6·52	0·48
420	7·37	0·53	7·28	0·52	7·18	0·51	7·09	0·51	7·00	0·50
430	7·90	0·54	7·80	0·54	7·69	0·54	7·60	0·53	7·50	0·52
440	8·44	0·57	8·34	0·56	8·23	0·56	8·13	0·54	8·02	0·54
450	9·01	0·60	8·90	0·59	8·79	0·58	8·67	0·58	8·56	0·57
460	9·61	0·62	9·49	0·61	9·37	0·61	9·25	0·60	9·13	0·59
470	10·23	0·65	10·10	0·64	9·98	0·63	9·85	0·63	9·72	0·62
480	10·88	0·68	10·74	0·67	10·61	0·66	10·48	0·64	10·34	0·64
490	11·56	0·69	11·41	0·69	11·27	0·68	11·12	0·67	10·98	0·66
500	12·25		12·10		11·95		11·79		11·64	

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 1600 — 1700.

	1600	Diff.	1610	Diff.	1620	Diff.	1630	Diff.	1640	Diff.	1650	Diff.	1660	Diff.	1670	Diff.	1680	Diff.	1690	Diff.	1700	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	30
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	40
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	50
60	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	60
70	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	70
80	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	80
90	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	90
100	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·03	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·03	**100**
110	0·13	0·04	0·13	0·04	0·13	0·04	0·13	0·03	0·13	0·03	0·13	0·03	0·12	0·04	0·12	0·04	0·12	0·03	0·12	0·03	0·12	0·03	110
120	0·17	0·04	0·17	0·04	0·17	0·04	0·16	0·04	0·16	0·04	0·16	0·04	0·16	0·04	0·16	0·04	0·15	0·04	0·15	0·04	0·15	0·04	120
130	0·21	0·06	0·21	0·06	0·21	0·05	0·20	0·06	0·20	0·05	0·20	0·05	0·20	0·05	0·20	0·05	0·19	0·05	0·19	0·05	0·19	0·05	130
140	0·27	0·06	0·27	0·06	0·26	0·06	0·26	0·06	0·25	0·06	0·25	0·06	0·25	0·06	0·25	0·05	0·24	0·06	0·24	0·05	0·24	0·05	140
150	0·33	0·07	0·33	0·07	0·32	0·07	0·32	0·07	0·31	0·07	0·31	0·07	0·31	0·06	0·30	0·07	0·30	0·06	0·29	0·07	0·29	0·06	150
160	0·40	0·08	0·40	0·07	0·39	0·08	0·39	0·07	0·38	0·08	0·38	0·07	0·37	0·07	0·37	0·07	0·36	0·07	0·36	0·07	0·35	0·07	160
170	0·48	0·09	0·47	0·09	0·47	0·09	0·46	0·09	0·46	0·08	0·45	0·09	0·44	0·09	0·44	0·08	0·43	0·08	0·43	0·08	0·42	0·08	170
180	0·57	0·10	0·56	0·10	0·56	0·09	0·55	0·10	0·54	0·10	0·54	0·09	0·53	0·09	0·52	0·09	0·51	0·09	0·51	0·09	0·50	0·09	180
190	0·67	0·11	0·66	0·11	0·65	0·11	0·65	0·10	0·64	0·10	0·63	0·11	0·62	0·10	0·61	0·10	0·60	0·10	0·60	0·10	0·59	0·10	190
200	0·78	0·12	0·77	0·12	0·76	0·12	0·75	0·12	0·74	0·12	0·74	0·11	0·72	0·11	0·71	0·11	0·70	0·11	0·70	0·10	0·69	0·10	**200**
210	0·90	0·13	0·89	0·13	0·88	0·13	0·87	0·13	0·86	0·12	0·85	0·12	0·83	0·13	0·82	0·13	0·81	0·12	0·80	0·12	0·79	0·12	210
220	1·03	0·15	1·02	0·15	1·01	0·14	1·00	0·14	0·98	0·14	0·97	0·14	0·96	0·14	0·95	0·13	0·93	0·14	0·92	0·13	0·91	0·13	220
230	1·18	0·16	1·17	0·15	1·15	0·16	1·14	0·15	1·12	0·16	1·11	0·15	1·10	0·15	1·08	0·15	1·07	0·14	1·05	0·15	1·04	0·14	230
240	1·34	0·17	1·32	0·17	1·31	0·17	1·29	0·17	1·28	0·16	1·26	0·17	1·25	0·16	1·23	0·16	1·21	0·16	1·20	0·16	1·18	0·16	240
250	1·51	0·18	1·49	0·18	1·48	0·17	1·46	0·17	1·44	0·17	1·43	0·17	1·41	0·17	1·39	0·17	1·37	0·17	1·36	0·16	1·34	0·16	250
260	1·69	0·20	1·67	0·20	1·65	0·20	1·63	0·19	1·61	0·19	1·60	0·18	1·58	0·18	1·56	0·18	1·54	0·18	1·52	0·17	1·50	0·17	260
270	1·89	0·22	1·87	0·22	1·85	0·21	1·82	0·21	1·80	0·21	1·78	0·21	1·76	0·20	1·74	0·20	1·72	0·19	1·69	0·20	1·67	0·19	270
280	2·11	0·23	2·09	0·23	2·06	0·23	2·03	0·23	2·01	0·22	1·99	0·22	1·96	0·22	1·94	0·21	1·91	0·21	1·89	0·21	1·86	0·21	280
290	2·34	0·25	2·32	0·25	2·29	0·25	2·26	0·25	2·23	0·24	2·21	0·24	2·18	0·23	2·15	0·23	2·12	0·23	2·10	0·22	2·07	0·22	290
300	2·59	0·27	2·57	0·26	2·54	0·26	2·51	0·25	2·47	0·26	2·45	0·25	2·41	0·25	2·38	0·25	2·35	0·25	2·32	0·24	2·29	0·24	**300**
310	2·86	0·28	2·83	0·27	2·80	0·27	2·76	0·27	2·73	0·27	2·70	0·26	2·66	0·26	2·63	0·26	2·60	0·25	2·56	0·26	2·53	0·25	310
320	3·14	0·30	3·10	0·30	3·07	0·29	3·03	0·29	3·00	0·28	2·96	0·28	2·92	0·28	2·89	0·27	2·85	0·27	2·82	0·26	2·78	0·26	320
330	3·44	0·32	3·40	0·31	3·36	0·31	3·32	0·31	3·28	0·30	3·24	0·30	3·20	0·30	3·16	0·29	3·12	0·29	3·08	0·28	3·04	0·28	330
340	3·76	0·33	3·71	0·33	3·67	0·33	3·63	0·32	3·58	0·32	3·54	0·32	3·50	0·31	3·45	0·31	3·41	0·30	3·36	0·31	3·32	0·30	340
350	4·09	0·35	4·04	0·35	4·00	0·34	3·95	0·34	3·90	0·34	3·86	0·33	3·81	0·33	3·76	0·33	3·71	0·33	3·67	0·32	3·62	0·32	350
360	4·44	0·38	4·39	0·37	4·34	0·37	4·29	0·37	4·24	0·36	4·19	0·36	4·14	0·35	4·09	0·35	4·04	0·34	3·99	0·34	3·94	0·33	360
370	4·82	0·39	4·76	0·39	4·71	0·38	4·66	0·38	4·60	0·37	4·55	0·37	4·49	0·37	4·44	0·36	4·38	0·36	4·33	0·35	4·27	0·35	370
380	5·21	0·42	5·15	0·41	5·09	0·40	5·04	0·40	4·97	0·39	4·92	0·39	4·86	0·39	4·80	0·38	4·74	0·38	4·68	0·37	4·62	0·37	380
390	5·63	0·43	5·56	0·43	5·49	0·43	5·44	0·42	5·36	0·42	5·31	0·41	5·25	0·40	5·18	0·40	5·12	0·39	5·05	0·39	4·99	0·38	390
400	6·06	0·46	5·99	0·45	5·92	0·45	5·86	0·44	5·78	0·44	5·72	0·43	5·65	0·43	5·58	0·42	5·51	0·42	5·44	0·41	5·37	0·41	**400**
410	6·52	0·48	6·44	0·48	6·37	0·47	6·30	0·46	6·22	0·46	6·15	0·46	6·08	0·45	6·00	0·45	5·93	0·44	5·85	0·44	5·78	0·43	410
420	7·00	0·50	6·92	0·50	6·84	0·49	6·76	0·49	6·68	0·48	6·61	0·47	6·53	0·47	6·45	0·46	6·37	0·46	6·29	0·45	6·21	0·45	420
430	7·50	0·52	7·42	0·51	7·33	0·51	7·25	0·50	7·16	0·50	7·08	0·49	7·00	0·48	6·91	0·48	6·83	0·47	6·74	0·47	6·66	0·46	430
440	8·02	0·54	7·93	0·53	7·84	0·53	7·75	0·52	7·66	0·52	7·57	0·51	7·48	0·51	7·39	0·50	7·30	0·49	7·21	0·49	7·12	0·48	440
450	8·56	0·57	8·46	0·56	8·37	0·55	8·27	0·55	8·18	0·54	8·08	0·54	7·99	0·53	7·89	0·53	7·79	0·52	7·70	0·51	7·60	0·51	450
460	9·13	0·59	9·02	0·59	8·92	0·58	8·82	0·58	8·72	0·57	8·62	0·56	8·52	0·55	8·42	0·54	8·31	0·55	8·21	0·54	8·11	0·53	460
470	9·72	0·62	9·61	0·62	9·50	0·61	9·40	0·60	9·29	0·59	9·18	0·59	9·07	0·58	8·96	0·57	8·86	0·56	8·75	0·56	8·64	0·55	470
480	10·34	0·64	10·23	0·63	10·11	0·63	10·00	0·62	9·88	0·61	9·77	0·60	9·65	0·60	9·53	0·60	9·42	0·58	9·31	0·57	9·19	0·57	480
490	10·98	0·66	10·86	0·65	10·74	0·64	10·62	0·64	10·49	0·64	10·37	0·63	10·25	0·62	10·13	0·61	10·00	0·62	9·88	0·61	9·76	0·60	490
500	11·64		11·51		11·38		11·26		11·13		11·00		10·87		10·74		10·62		10·49		10·36		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 1700—1800.

	1700	Diff.	1710	Diff.	1720	Diff.	1730	Diff.	1740	Diff.	1750	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
60	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
70	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
80	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02
90	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03
100	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·02	0·09	0·02	0·09	0·02
110	0·12	0·03	0·12	0·03	0·12	0·03	0·11	0·03	0·11	0·03	0·11	0·03
120	0·15	0·04	0·15	0·04	0·15	0·04	0·14	0·04	0·14	0·04	0·14	0·04
130	0·19	0·05	0·19	0·05	0·19	0·04	0·18	0·05	0·18	0·05	0·18	0·05
140	0·24	0·05	0·24	0·05	0·23	0·05	0·23	0·05	0·23	0·05	0·23	0·05
150	0·29	0·06	0·29	0·06	0·28	0·06	0·28	0·06	0·28	0·06	0·28	0·06
160	0·35	0·07	0·35	0·07	0·34	0·07	0·34	0·07	0·34	0·06	0·34	0·06
170	0·42	0·08	0·42	0·08	0·41	0·08	0·41	0·08	0·40	0·08	0·40	0·08
180	0·50	0·09	0·50	0·08	0·49	0·09	0·49	0·08	0·48	0·09	0·48	0·08
190	0·59	0·10	0·58	0·10	0·58	0·09	0·57	0·10	0·57	0·09	0·56	0·09
200	0·69	0·10	0·68	0·10	0·67	0·10	0·67	0·10	0·66	0·10	0·65	0·10
210	0·79	0·12	0·78	0·12	0·77	0·12	0·77	0·11	0·76	0·11	0·75	0·12
220	0·91	0·13	0·90	0·13	0·89	0·13	0·88	0·13	0·87	0·13	0·87	0·12
230	1·04	0·14	1·03	0·14	1·02	0·14	1·01	0·13	1·00	0·13	0·99	0·13
240	1·18	0·16	1·17	0·16	1·16	0·15	1·14	0·15	1·13	0·15	1·12	0·15
250	1·34	0·16	1·33	0·15	1·31	0·16	1·29	0·16	1·28	0·16	1·27	0·15
260	1·50	0·17	1·48	0·17	1·47	0·17	1·45	0·17	1·44	0·16	1·42	0·17
270	1·67	0·19	1·65	0·19	1·64	0·18	1·62	0·18	1·60	0·18	1·59	0·18
280	1·86	0·21	1·84	0·21	1·82	0·20	1·80	0·20	1·78	0·20	1·77	0·20
290	2·07	0·22	2·05	0·22	2·02	0·22	2·00	0·22	1·98	0·22	1·97	0·21
300	2·29	0·24	2·27	0·23	2·24	0·23	2·22	0·23	2·20	0·23	2·18	0·22
310	2·53	0·25	2·50	0·25	2·47	0·25	2·45	0·24	2·43	0·24	2·40	0·24
320	2·78	0·26	2·75	0·26	2·72	0·26	2·69	0·26	2·67	0·25	2·64	0·25
330	3·04	0·28	3·01	0·28	2·98	0·27	2·95	0·27	2·92	0·26	2·89	0·26
340	3·32	0·30	3·29	0·29	3·25	0·30	3·22	0·29	3·18	0·29	3·15	0·29
350	3·62	0·32	3·58	0·32	3·55	0·31	3·51	0·31	3·47	0·30	3·44	0·30
360	3·94	0·33	3·90	0·33	3·86	0·32	3·82	0·32	3·77	0·32	3·74	0·31
370	4·27	0·35	4·23	0·34	4·18	0·34	4·14	0·34	4·09	0·34	4·05	0·33
380	4·62	0·37	4·57	0·37	4·52	0·36	4·48	0·35	4·43	0·35	4·38	0·35
390	4·99	0·38	4·94	0·38	4·88	0·38	4·83	0·38	4·78	0·37	4·73	0·37
400	5·37	0·41	5·32	0·40	5·26	0·40	5·21	0·39	5·15	0·39	5·10	0·39
410	5·78	0·43	5·72	0·43	5·66	0·42	5·60	0·42	5·54	0·41	5·49	0·40
420	6·21	0·45	6·15	0·44	6·08	0·44	6·02	0·43	5·95	0·43	5·89	0·43
430	6·66	0·46	6·59	0·46	6·52	0·45	6·45	0·45	6·38	0·45	6·32	0·44
440	7·12	0·48	7·05	0·48	6·97	0·47	6·90	0·47	6·83	0·46	6·76	0·45
450	7·60	0·51	7·53	0·50	7·44	0·50	7·37	0·49	7·29	0·49	7·21	0·49
460	8·11	0·53	8·03	0·52	7·94	0·52	7·86	0·51	7·78	0·50	7·70	0·50
470	8·64	0·55	8·55	0·55	8·46	0·54	8·37	0·54	8·28	0·53	8·20	0·52
480	9·19	0·57	9·10	0·56	9·00	0·56	8·91	0·55	8·81	0·55	8·72	0·54
490	9·76	0·60	9·66	0·59	9·56	0·59	9·46	0·58	9·36	0·57	9·26	0·57
500	10·36		10·25		10·15		10·04		9·93		9·83	

1760	Diff.	1770	Diff.	1780	Diff.	1790	Diff.	1800	Diff.	
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	30
0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	40
0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	50
0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	60
0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	70
0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	80
0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	90
0·08	0·03	0·08	0·03	0·08	0·02	0·08	0·02	0·08	0·02	**100**
0·11	0·03	0·11	0·03	0·10	0·03	0·10	0·03	0·10	0·03	110
0·14	0·04	0·14	0·04	0·13	0·04	0·13	0·04	0·13	0·04	120
0·18	0·04	0·18	0·04	0·17	0·05	0·17	0·04	0·17	0·04	130
0·22	0·05	0·22	0·05	0·22	0·05	0·21	0·05	0·21	0·05	140
0·27	0·06	0·27	0·06	0·27	0·06	0·26	0·06	0·26	0·06	150
0·33	0·07	0·33	0·06	0·33	0·06	0·32	0·06	0·32	0·06	160
0·40	0·07	0·39	0·08	0·39	0·07	0·38	0·07	0·38	0·07	170
0·47	0·08	0·47	0·08	0·46	0·08	0·45	0·08	0·45	0·08	180
0·55	0·09	0·55	0·08	0·54	0·09	0·53	0·09	0·53	0·08	190
0·64	0·10	0·63	0·10	0·63	0·10	0·62	0·10	0·61	0·10	**200**
0·74	0·11	0·73	0·11	0·73	0·11	0·72	0·11	0·71	0·11	210
0·85	0·12	0·84	0·12	0·84	0·11	0·83	0·11	0·82	0·11	220
0·97	0·14	0·96	0·14	0·95	0·13	0·94	0·13	0·93	0·13	230
1·11	0·14	1·10	0·14	1·08	0·15	1·07	0·14	1·06	0·14	240
1·25	0·15	1·24	0·15	1·23	0·14	1·21	0·15	1·20	0·14	250
1·40	0·17	1·39	0·16	1·37	0·16	1·36	0·16	1·34	0·16	260
1·57	0·18	1·55	0·18	1·53	0·18	1·52	0·17	1·50	0·17	270
1·75	0·19	1·73	0·19	1·71	0·19	1·69	0·19	1·67	0·19	280
1·94	0·21	1·92	0·21	1·90	0·21	1·88	0·20	1·86	0·20	290
2·15	0·22	2·13	0·22	2·11	0·21	2·08	0·22	2·06	0·21	**300**
2·37	0·23	2·35	0·23	2·32	0·23	2·30	0·22	2·27	0·22	310
2·60	0·25	2·58	0·24	2·55	0·24	2·52	0·24	2·49	0·24	320
2·85	0·27	2·82	0·26	2·79	0·26	2·76	0·26	2·73	0·25	330
3·12	0·28	3·08	0·28	3·05	0·27	3·02	0·27	2·98	0·27	340
3·40	0·29	3·36	0·29	3·32	0·29	3·29	0·28	3·25	0·28	350
3·69	0·31	3·65	0·31	3·61	0·31	3·57	0·30	3·53	0·30	360
4·00	0·33	3·96	0·32	3·92	0·32	3·87	0·32	3·83	0·31	370
4·33	0·35	4·28	0·35	4·24	0·33	4·19	0·33	4·14	0·33	380
4·68	0·36	4·63	0·36	4·57	0·36	4·52	0·36	4·47	0·35	390
5·04	0·39	4·99	0·38	4·93	0·38	4·88	0·37	4·82	0·37	**400**
5·43	0·40	5·37	0·39	5·31	0·39	5·25	0·38	5·19	0·38	410
5·83	0·42	5·76	0·42	5·70	0·41	5·63	0·41	5·57	0·40	420
6·25	0·43	6·18	0·43	6·11	0·43	6·04	0·42	5·97	0·42	430
6·68	0·45	6·61	0·45	6·54	0·44	6·46	0·44	6·39	0·43	440
7·13	0·48	7·06	0·47	6·98	0·47	6·90	0·46	6·82	0·46	450
7·61	0·50	7·53	0·49	7·45	0·48	7·36	0·48	7·28	0·47	460
8·11	0·51	8·02	0·51	7·93	0·50	7·84	0·50	7·75	0·49	470
8·62	0·53	8·53	0·52	8·43	0·52	8·34	0·51	8·24	0·51	480
9·15	0·57	9·05	0·56	8·95	0·55	8·85	0·55	8·75	0·54	490
9·72		9·61		9·50		9·40		9·29		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 1800—1900.

	1800	Diff.	1810	Diff.	1820	Diff.	1830	Diff.	1840	Diff.	1850	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
60	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
70	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
80	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02
90	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02
100	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02
110	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·03
120	0·13	0·04	0·13	0·04	0·13	0·04	0·13	0·03	0·13	0·03	0·13	0·03
130	0·17	0·04	0·17	0·04	0·17	0·04	0·16	0·04	0·16	0·04	0·16	0·04
140	0·21	0·05	0·21	0·05	0·21	0·04	0·20	0·05	0·20	0·05	0·20	0·05
150	0·26	0·06	0·26	0·06	0·25	0·06	0·25	0·06	0·25	0·05	0·25	0·05
160	0·32	0·06	0·32	0·06	0·31	0·06	0·31	0·06	0·30	0·06	0·30	0·06
170	0·38	0·07	0·38	0·07	0·37	0·07	0·37	0·07	0·36	0·07	0·36	0·07
180	0·45	0·08	0·45	0·07	0·44	0·08	0·44	0·07	0·43	0·08	0·43	0·07
190	0·53	0·08	0·52	0·08	0·52	0·08	0·51	0·08	0·51	0·08	0·50	0·08
200	0·61	0·10	0·60	0·10	0·60	0·10	0·59	0·10	0·59	0·09	0·58	0·10
210	0·71	0·11	0·70	0·11	0·70	0·10	0·69	0·10	0·68	0·10	0·68	0·10
220	0·82	0·11	0·81	0·11	0·80	0·11	0·79	0·11	0·78	0·11	0·78	0·11
230	0·93	0·13	0·92	0·13	0·91	0·13	0·90	0·13	0·89	0·13	0·89	0·12
240	1·06	0·14	1·05	0·14	1·04	0·13	1·03	0·13	1·02	0·13	1·01	0·13
250	1·20	0·14	1·19	0·14	1·17	0·14	1·16	0·14	1·15	0·14	1·14	0·14
260	1·34	0·16	1·33	0·16	1·31	0·16	1·30	0·16	1·29	0·15	1·28	0·15
270	1·50	0·17	1·49	0·17	1·47	0·17	1·46	0·16	1·44	0·16	1·43	0·16
280	1·67	0·19	1·66	0·18	1·64	0·18	1·62	0·18	1·60	0·18	1·59	0·18
290	1·86	0·20	1·84	0·20	1·82	0·20	1·80	0·20	1·78	0·20	1·77	0·19
300	2·06	0·21	2·04	0·21	2·02	0·20	2·00	0·20	1·98	0·20	1·96	0·20
310	2·27	0·22	2·25	0·22	2·22	0·22	2·20	0·22	2·18	0·21	2·16	0·21
320	2·49	0·24	2·47	0·23	2·44	0·23	2·42	0·23	2·39	0·23	2·37	0·22
330	2·73	0·25	2·70	0·25	2·67	0·25	2·65	0·24	2·62	0·24	2·59	0·24
340	2·98	0·27	2·95	0·27	2·92	0·26	2·89	0·26	2·86	0·26	2·83	0·26
350	3·25	0·28	3·22	0·28	3·18	0·28	3·15	0·27	3·12	0·27	3·09	0·26
360	3·53	0·30	3·50	0·29	3·46	0·29	3·42	0·29	3·39	0·28	3·35	0·29
370	3·83	0·31	3·79	0·31	3·75	0·31	3·71	0·31	3·67	0·30	3·64	0·30
380	4·14	0·33	4·10	0·33	4·06	0·32	4·02	0·32	3·97	0·32	3·94	0·31
390	4·47	0·35	4·43	0·34	4·38	0·34	4·34	0·34	4·29	0·34	4·25	0·33
400	4·82	0·37	4·77	0·36	4·72	0·36	4·68	0·35	4·63	0·35	4·58	0·35
410	5·19	0·38	5·13	0·38	5·08	0·38	5·03	0·37	4·98	0·37	4·93	0·36
420	5·57	0·40	5·51	0·40	5·46	0·39	5·40	0·39	5·35	0·38	5·29	0·38
430	5·97	0·42	5·91	0·42	5·85	0·41	5·79	0·41	5·73	0·40	5·67	0·40
440	6·39	0·43	6·33	0·43	6·26	0·42	6·20	0·42	6·13	0·42	6·07	0·41
450	6·82	0·46	6·76	0·45	6·68	0·45	6·62	0·44	6·55	0·44	6·48	0·44
460	7·28	0·47	7·21	0·46	7·13	0·47	7·06	0·46	6·99	0·45	6·92	0·45
470	7·75	0·49	7·67	0·48	7·60	0·48	7·52	0·48	7·44	0·48	7·37	0·47
480	8·24	0·51	7·15	0·51	7·08	0·50	8·00	0·49	7·92	0·49	7·84	0·48
490	8·75	0·54	8·66	0·54	8·58	0·53	8·49	0·52	8·41	0·51	8·32	0·51
500	9·29		9·20		9·11		9·01		6·92		8·83	

	1860	Diff.	1870	Diff.	1880	Diff.	1890	Diff.	1900	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	50
60	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	60
70	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	70
80	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	80
90	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	90
100	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	**100**
110	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·03	110
120	0·12	0·04	0·12	0·04	0·12	0·03	0·12	0·03	0·12	0·03	120
130	0·16	0·04	0·16	0·04	0·15	0·04	0·15	0·04	0·15	0·04	130
140	0·20	0·04	0·20	0·04	0·19	0·05	0·19	0·04	0·19	0·04	140
150	0·24	0·06	0·24	0·05	0·24	0·05	0·23	0·05	0·23	0·05	150
160	0·30	0·05	0·29	0·06	0·29	0·06	0·28	0·06	0·28	0·06	160
170	0·36	0·06	0·35	0·07	0·35	0·06	0·34	0·07	0·34	0·06	170
180	0·42	0·07	0·42	0·07	0·41	0·07	0·41	0·07	0·40	0·07	180
190	0·49	0·08	0·49	0·08	0·48	0·08	0·48	0·08	0·47	0·08	190
200	0·57	0·10	0·57	0·09	0·56	0·09	0·56	0·09	0·55	0·09	**200**
210	0·67	0·10	0·66	0·10	0·65	0·10	0·65	0·09	0·64	0·09	210
220	0·77	0·11	0·76	0·11	0·75	0·11	0·74	0·11	0·73	0·11	220
230	0·88	0·11	0·87	0·11	0·86	0·11	0·85	0·11	0·84	0·11	230
240	0·99	0·13	0·98	0·13	0·97	0·13	0·96	0·12	0·95	0·12	240
250	1·12	0·14	1·11	0·14	1·10	0·14	1·08	0·14	1·07	0·14	250
260	1·26	0·15	1·25	0·15	1·24	0·14	1·22	0·15	1·21	0·14	260
270	1·41	0·16	1·40	0·16	1·38	0·15	1·37	0·15	1·35	0·15	270
280	1·57	0·18	1·56	0·17	1·53	0·17	1·52	0·17	1·50	0·17	280
290	1·75	0·18	1·73	0·18	1·70	0·19	1·69	0·18	1·67	0·18	290
300	1·93	0·20	1·91	0·20	1·89	0·20	1·87	0·19	1·85	0·19	**300**
310	2·13	0·21	2·11	0·21	2·09	0·20	2·06	0·21	2·04	0·20	310
320	2·34	0·22	2·32	0·21	2·29	0·22	2·27	0·21	2·24	0·21	320
330	2·56	0·24	2·53	0·24	2·51	0·23	2·48	0·23	2·45	0·23	330
340	2·80	0·25	2·77	0·25	2·74	0·24	2·71	0·24	2·68	0·24	340
350	3·05	0·26	3·02	0·26	2·98	0·26	2·95	0·26	2·92	0·25	350
360	3·31	0·28	3·28	0·28	3·24	0·28	3·21	0·27	3·17	0·27	360
370	3·59	0·30	3·56	0·29	3·52	0·29	3·48	0·29	3·44	0·29	370
380	3·89	0·32	3·85	0·31	3·81	0·31	3·77	0·30	3·73	0·30	380
390	4·21	0·33	4·16	0·33	4·12	0·32	4·07	0·32	4·03	0·31	390
400	4·54	0·34	4·49	0·34	4·44	0·33	4·39	0·33	4·34	0·33	**400**
410	4·88	0·35	4·83	0·35	4·77	0·35	4·72	0·35	4·67	0·34	410
420	5·23	0·38	5·18	0·37	5·12	0·37	5·07	0·36	5·01	0·36	420
430	5·61	0·40	5·55	0·39	5·49	0·39	5·43	0·38	5·37	0·38	430
440	6·01	0·40	5·94	0·40	5·88	0·40	5·81	0·40	5·75	0·39	440
450	6·41	0·43	6·34	0·43	6·28	0·42	6·21	0·41	6·14	0·41	450
460	6·84	0·45	6·77	0·44	6·70	0·43	6·62	0·44	6·55	0·43	460
470	7·29	0·46	7·21	0·46	7·13	0·46	7·06	0·45	6·98	0·45	470
480	7·75	0·48	7·67	0·48	7·59	0·47	7·51	0·47	7·43	0·46	480
490	8·23	0·51	8·15	0·50	8·06	0·49	7·98	0·48	7·89	0·48	490
500	8·74		8·65		8·55		8·46		8·37		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 1900—2000.

	1900	Diff.	1910	Diff.	1920	Diff.	1930	Diff.	1940	Diff.	1950	Diff.	1960	Diff.	1970	Diff.	1980	Diff.	1990	Diff.	2000	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
60	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	60
70	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	70
80	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	80
90	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	90
100	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	**100**
110	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	110
120	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	120
130	0·15	0·04	0·15	0·04	0·15	0·04	0·15	0·03	0·15	0·03	0·15	0·03	0·14	0·04	0·14	0·04	0·14	0·03	0·14	0·03	0·14	0·03	130
140	0·19	0·04	0·19	0·04	0·19	0·04	0·18	0·04	0·18	0·04	0·18	0·04	0·18	0·04	0·18	0·04	0·17	0·04	0·17	0·04	0·17	0·04	140
150	0·23	0·05	0·23	0·05	0·23	0·04	0·22	0·05	0·22	0·05	0·22	0·05	0·22	0·04	0·22	0·04	0·21	0·05	0·21	0·04	0·21	0·04	150
160	0·28	0·06	0·28	0·06	0·27	0·06	0·27	0·06	0·27	0·05	0·27	0·05	0·26	0·06	0·26	0·05	0·26	0·05	0·25	0·05	0·25	0·05	160
170	0·34	0·06	0·34	0·06	0·33	0·06	0·33	0·06	0·32	0·06	0·32	0·06	0·32	0·06	0·31	0·06	0·31	0·06	0·30	0·06	0·30	0·06	170
180	0·40	0·07	0·40	0·07	0·39	0·07	0·39	0·07	0·38	0·07	0·38	0·07	0·38	0·07	0·37	0·07	0·37	0·07	0·36	0·07	0·36	0·07	180
190	0·47	0·08	0·47	0·08	0·46	0·08	0·46	0·08	0·45	0·08	0·45	0·08	0·45	0·07	0·44	0·08	0·44	0·07	0·43	0·08	0·43	0·07	190
200	0·55	0·09	0·55	0·08	0·54	0·09	0·54	0·08	0·53	0·09	0·53	0·08	0·52	0·08	0·52	0·08	0·51	0·08	0·51	0·08	0·50	0·08	**200**
210	0·64	0·09	0·63	0·09	0·63	0·09	0·62	0·09	0·62	0·09	0·61	0·09	0·60	0·09	0·60	0·09	0·59	0·09	0·59	0·09	0·58	0·09	210
220	0·73	0·11	0·72	0·11	0·72	0·10	0·71	0·10	0·71	0·10	0·70	0·10	0·69	0·10	0·69	0·09	0·68	0·10	0·68	0·09	0·67	0·09	220
230	0·84	0·11	0·83	0·11	0·82	0·11	0·81	0·11	0·81	0·10	0·80	0·11	0·79	0·11	0·78	0·11	0·78	0·10	0·77	0·10	0·76	0·10	230
240	0·95	0·12	0·94	0·12	0·93	0·12	0·92	0·12	0·91	0·12	0·91	0·11	0·90	0·11	0·89	0·11	0·88	0·11	0·87	0·11	0·86	0·11	240
250	1·07	0·14	1·06	0·14	1·05	0·13	1·04	0·13	1·03	0·13	1·02	0·13	1·01	0·13	1·00	0·13	0·99	0·12	0·98	0·12	0·97	0·12	250
260	1·21	0·14	1·20	0·14	1·18	0·14	1·17	0·14	1·16	0·14	1·15	0·14	1·14	0·13	1·13	0·13	1·11	0·14	1·10	0·13	1·09	0·13	260
270	1·35	0·15	1·34	0·15	1·32	0·15	1·31	0·15	1·30	0·15	1·29	0·14	1·27	0·15	1·26	0·14	1·25	0·14	1·23	0·14	1·22	0·14	270
280	1·50	0·17	1·49	0·16	1·47	0·17	1·46	0·16	1·45	0·16	1·43	0·16	1·42	0·15	1·40	0·16	1·39	0·15	1·37	0·16	1·36	0·15	280
290	1·67	0·18	1·65	0·18	1·64	0·17	1·62	0·18	1·61	0·17	1·59	0·17	1·57	0·17	1·56	0·16	1·54	0·17	1·53	0·16	1·51	0·16	290
300	1·85	0·19	1·83	0·19	1·81	0·19	1·80	0·18	1·78	0·18	1·76	0·18	1·74	0·18	1·72	0·18	1·71	0·17	1·69	0·17	1·67	0·17	**300**
310	2·04	0·20	2·02	0·20	2·00	0·20	1·98	0·19	1·96	0·19	1·94	0·19	1·92	0·19	1·90	0·19	1·88	0·18	1·86	0·18	1·84	0·18	310
320	2·24	0·:1	2·22	0·21	2·20	0·21	2·17	0·21	2·15	0·21	2·13	0·21	2·11	0·20	2·09	0·20	2·06	0·20	2·04	0·20	2·02	0·.0	320
330	2·45	0·23	2·43	0·22	2·41	0·22	2·38	0·23	2·36	0·22	2·34	0·22	2·31	0·21	2·29	0·21	2·26	0·22	2·24	0·21	2·22	0·21	330
340	2·68	0·24	2·65	0·24	2·63	0·23	2·61	0·23	2·58	0·23	2·56	0·22	2·52	0·23	2·50	0·22	2·48	0·22	2·45	0·22	2·43	0·21	340
350	2·92	0·25	2·89	0·25	2·86	0·25	2·84	0·24	2·81	0·24	2·78	0·24	2·75	0·24	2·72	0·24	2·70	0·23	2·67	0·23	2·64	0·23	350
360	3·17	0·27	3·14	0·27	3·11	0·26	3·08	0·26	3·05	0·26	3·02	0·26	2·99	0·25	2·96	0·25	2·93	0·:5	2·90	0·25	2·87	0·24	360
370	3·44	0·29	3·41	0·28	3·37	0·28	3·34	0·28	3·31	0·28	3·28	0·27	3·24	0·27	3·21	0·27	3·18	0·26	3·15	0·26	3·11	0·26	370
380	3·73	0·30	3 69	0·30	3·65	0·30	3·62	0·29	3·59	0·28	3·55	0·29	3·51	0·29	3·48	0·28	3·44	0·28	3·41	0·27	3·37	0·27	380
390	4·03	0·31	3·99	0·31	3·95	0·31	3·91	0·30	3·87	0·30	3·84	0·30	3·80	0·29	3·76	0·29	3·72	0·28	3·68	0·28	3·64	0·28	390
400	4 34	0·33	4·30	0·32	4·26	0·32	4·21	0·32	4·17	0·32	4 14	0·31	4·09	0·31	4·05	0·30	4·00	0·31	3·96	0·30	3·92	0·30	**400**
410	4·67	0·34	4·62	0·34	4·58	0·33	4·53	0·34	4·49	0·33	4·45	0·32	4·40	0·32	4·35	0·32	4·31	0·32	4·26	0·32	4·22	0·31	410
420	5·01	0·36	4·96	0·36	4·91	0·36	4·87	0·35	4·82	0·35	4·77	0·35	4·72	0·34	4·67	0·34	4·63	0·33	4·58	0·33	4·53	0·33	420
430	5·37	0·38	5·32	0·38	5·27	0·37	5·22	0·37	5·17	0·36	5·12	0·36	5·06	0·36	5·01	0·35	4·96	0·35	4·91	0·35	4·86	0·34	430
440	5·75	0·39	5·70	0·39	5·64	0·38	5·59	0·38	5·53	0·38	5·48	0·37	5·42	0·37	5·36	0·37	5·31	0·37	5·26	0·36	5·20	0·36	440
450	6·14	0·41	6·09	0·40	6·02	0·41	5·97	0·39	5·91	0·39	5·85	0·39	5·79	0·39	5·73	0·39	5·68	0·37	5·62	0·37	5·56	0·37	450
460	6·55	0·43	6·49	0·42	6·43	0·42	6·36	0·42	6·30	0·42	6·24	0·41	6·18	0·40	6·12	0·40	6·05	0·40	5·99	0·39	5·93	0·39	460
470	6·98	0·45	6·91	0·45	6·85	0·44	6·78	0·44	6·72	0·43	6·65	0·43	6·58	0·42	6·52	0·41	6·45	0·41	6·38	0·41	6·32	0·40	470
480	7·43	0·46	7·36	0·46	7·29	0·45	7·22	0·45	7·15	0·44	7·08	0·44	7·00	0·44	6·93	0·44	6·86	0·43	6·79	0·43	6·72	0·42	480
490	7·89	0·48	7·82	0·47	7·74	0·47	7·67	0·46	7·59	0·46	7·52	0·46	7·44	0·46	7·37	0·45	7·29	0·45	7·22	0·44	7·14	0·44	490
500	8·37		7·29		7·21		7·13		8·05		7·98		7·90		7·82		7·74		7·66		7·58		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 2000—2200.

	2000	Diff.	2020	Diff.	2040	Diff.	2060	Diff.	2080	Diff.	2100	Diff.	2120	Diff.	2140	Diff.	2160	Diff.	2180	Diff.	2200	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
60	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	60
70	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	70
80	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	80
90	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	90
100	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	**100**
110	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·02	0·08	0·02	0·08	0·02	0·07	0·03	0·07	0·03	0·07	0·02	0·07	0·02	0·07	0·02	110
120	0·11	0·03	0·11	0·03	0·11	0·02	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·02	0·10	0·02	0·09	0·03	0·09	0·02	0·09	0·02	120
130	0·14	0·03	0·14	0·03	0·13	0·03	0·13	0·03	0·13	0·03	0·13	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·11	0·03	0·11	0·03	130
140	0·17	0·04	0·17	0·04	0·16	0·04	0·16	0·04	0·16	0·03	0·16	0·03	0·15	0·04	0·15	0·03	0·15	0·03	0·14	0·03	0·14	0·03	140
150	0·21	0·04	0·21	0·04	0·20	0·04	0·20	0·04	0·19	0·04	0·19	0·04	0·19	0·04	0·18	0·04	0·18	0·04	0·17	0·04	0·17	0·04	150
160	0·25	0·05	0·25	0·05	0·24	0·05	0·24	0·05	0·23	0·05	0·23	0·05	0·23	0·04	0·22	0·05	0·22	0·04	0·21	0·05	0·21	0·04	160
170	0·30	0·06	0·30	0·05	0·29	0·06	0·29	0·05	0·28	0·06	0·28	0·05	0·27	0·05	0·27	0·05	0·26	0·05	0·26	0·05	0·25	0·05	170
180	0·36	0·07	0·35	0·07	0·35	0·06	0·34	0·06	0·34	0·06	0·33	0·06	0·32	0·06	0·32	0·05	0·31	0·06	0·31	0·05	0·30	0·05	180
190	0·43	0·07	0·42	0·07	0·41	0·07	0·40	0·07	0·40	0·05	0·39	0·07	0·38	0·06	0·37	0·06	0·37	0·06	0·36	0·06	0·35	0·06	190
200	0·50	0·08	0·49	0·08	0·48	0·08	0·47	0·08	0·46	0·08	0·46	0·07	0·44	0·07	0·43	0·07	0·43	0·06	0·42	0·06	0·41	0·06	**200**
210	0·58	0·09	0·57	0·09	0·56	0·08	0·55	0·08	0·54	0·08	0·53	0·08	0·51	0·08	0·50	0·08	0·49	0·08	0·48	0·08	0·47	0·08	210
220	0·67	0·09	0·66	0·09	0·64	0·09	0·63	0·09	0·62	0·09	0·61	0·09	0·59	0·09	0·58	0·09	0·57	0·08	0·56	0·08	0·55	0·08	220
230	0·76	0·10	0·75	0·10	0·73	0·10	3·72	0·10	0·71	0·09	0·70	0·09	0·68	0·09	0·67	0·09	0·65	0·09	0·64	0·09	0·63	0·08	230
240	0·86	0·11	0·85	0·10	0·83	0·11	0·82	0·10	0·80	0·10	0·79	0·10	0·77	0·10	0·76	0·09	0·74	0·09	0·73	0·09	0·71	0·09	240
250	0·97	0·12	0·95	0·12	0·94	0·11	0·92	0·11	0·90	0·11	0·89	0·11	0·87	0·11	0·85	0·11	0·83	0·11	0·82	0·10	0·80	0·10	250
260	1·09	0·13	1·07	0·13	1·05	0·13	1·03	0·13	1·01	0·12	1·00	0·12	0·98	0·11	0·96	0·11	0·94	0·11	0·92	0·11	0·90	0·11	260
270	1·22	0·14	1·20	0·14	1·18	0·13	1·16	0·13	1·13	0·13	1·12	0·12	1·09	0·13	1·07	0·12	1·05	0·12	1·03	0·11	1·01	0·11	270
280	1·36	0·15	1·34	0·14	1·31	0·15	1·29	0·14	1·26	0·14	1·24	0·14	1·22	0·13	1·19	0·14	1·17	0·13	1·14	0·13	1·12	0·13	280
290	1·51	0·16	1·48	0·16	1·46	0·15	1·43	0·15	1·40	0·15	1·38	0·15	1·35	0·15	1·33	0·14	1·30	0·14	1·27	0·14	1·25	0·13	290
300	1·67	0·17	1·64	0·17	1·61	0·17	1·58	0·16	1·55	0·16	1·53	0·15	1·50	0·15	1·47	0·15	1·44	0·15	1·41	0·14	1·38	0·14	**300**
310	1·84	0·18	1·81	0·18	1·78	0·17	1·74	0·18	1·71	0·17	1·68	0·17	1·65	0·17	1·62	0·16	1·59	0·16	1·55	0·16	1·52	0·16	310
320	2·02	0·20	1·99	0·19	1·95	0·19	1·92	0·19	1·88	0·19	1·85	0·18	1·82	0·17	1·78	0·17	1·75	0·17	1·71	0·17	1·68	0·16	320
330	2·22	0·21	2·18	0·21	2·14	0·20	2·11	0·19	2·07	0·19	2·03	0·19	1·99	0·19	1·95	0·19	1·92	0·17	1·88	0·17	1·84	0·17	330
340	2·43	0·21	2·39	0·21	2·34	0·21	2·30	0·21	2·26	0·20	2·22	0·20	2·18	0·20	2·14	0·19	2·09	0·19	2·05	0·19	2·01	0·18	340
350	2·64	0·23	2·60	0·22	2·55	0·22	2·51	0·21	2·46	0·21	2·42	0·21	2·38	0·20	2·33	0·20	2·28	0·20	2·24	0·19	2·19	0·19	350
360	2·87	0·24	2·82	0·24	2·77	0·23	2·72	0·23	2·67	0·23	2·63	0·22	2·58	0·21	2·53	0·21	2·48	0·21	2·43	0·20	2·38	0·20	360
370	3·11	0·26	3·06	0·25	3·00	0·25	2·95	0·25	2·90	0·24	2·85	0·23	2·79	0·23	2·74	0·22	2·69	0·22	2·63	0·22	2·58	0·21	370
380	3·37	0·27	3·31	0·27	3·25	0·27	3·20	0·25	3·14	0·25	3·08	0·25	3·02	0·25	2·96	0·24	2·91	0·23	2·85	0·23	2·79	0·23	380
390	3·64	0·28	3·58	0·27	3·52	0·27	3·45	0·27	3·39	0·26	3·33	0·26	3·27	0·25	3·20	0·25	3·14	0·24	3·08	0·24	3·02	0·23	390
400	3·92	0·30	3·85	0·29	3·79	0·29	3·72	0·28	3·65	0·28	3·59	0·27	3·52	0·27	3·45	0·27	3·38	0·26	3·32	0·25	3·25	0·25	**400**
410	4·22	0·31	4·14	0·31	4·08	0·30	4·00	0·30	3·93	0·29	3·86	0·29	3·79	0·28	3·72	0·27	3·64	0·27	3·57	0·26	3·50	0·26	410
420	4·53	0·33	4·45	0·33	4·38	0·31	4·30	0·31	4·22	0·30	4·15	0·30	4·07	0·29	3·99	0·29	3·91	0·29	3·83	0·28	3·76	0·27	420
430	4·86	0·34	4·78	0·34	4·69	0·33	4·61	0·32	4·52	0·32	4·45	0·31	4·36	0·31	4·28	0·30	4·20	0·29	4·11	0·29	4·03	0·28	430
440	5·20	0·36	5·12	0·35	5·02	0·35	4·93	0·34	4·84	0·34	4·76	0·33	4·67	0·32	4·58	0·32	4·49	0·31	4·40	0·30	4·31	0·30	440
450	5·56	0·37	5·47	0·36	5·37	0·36	5·27	0·36	5·18	0·35	5·09	0·34	4·99	0·33	4·90	0·32	4·80	0·32	4·70	0·32	4·61	0·31	450
460	5·93	0·39	5·83	0·38	5·73	0·37	5·63	0·37	5·53	0·36	5·43	0·35	5·32	0·35	5·22	0·34	5·12	0·34	5·02	0·33	4·92	0·32	460
470	6·32	0·40	6·21	0·40	6·10	0·39	6·00	0·38	5·89	0·37	5·78	0·37	5·67	0·37	5·56	0·36	5·46	0·35	5·35	0·34	5·24	0·34	470
480	6·72	0·42	6·61	0·41	6·49	0·41	6·38	0·40	6·26	0·40	6·15	0·39	6·04	0·37	5·92	0·37	5·81	0·36	5·69	0·36	5·58	0·35	480
490	7·14	0·44	7·02	0·43	6·90	0·42	6·78	0·42	6·66	0·41	6·54	0·40	6·41	0·40	6·29	0·39	6·17	0·39	6·05	0·38	5·93	0·37	490
500	7·58		7·45		7·32		7·20		7·07		6·94		6·81		6·68		6·56		6·43		6·30		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 2200—2400.

	2200	Diff.	2220	Diff.	2240	Diff.	2260	Diff.	2280	Diff.	2300	Diff.	2320	Diff.	2340	Diff.	2360	Diff.	2380	Diff.	2400	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
60	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	60
70	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	70
80	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	80
90	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	90
100	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	**100**
110	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	110
120	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	120
130	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·02	0·11	0·02	0·11	0·02	0·10	0·03	0·10	0·03	0·10	0·02	0·10	0·02	0·10	0·02	130
140	0·14	0·03	0·14	0·03	0·14	0·03	0·13	0·03	0·13	0·03	0·13	0·03	0·13	0·03	0·13	0·03	0·12	0·03	0·12	0·03	0·12	0·03	140
150	0·17	0·04	0·17	0·04	0·17	0·03	0·16	0·04	0·16	0·03	0·16	0·03	0·16	0·03	0·16	0·03	0·15	0·03	0·15	0·03	0·15	0·03	150
160	0·21	0·04	0·21	0·04	0·20	0·04	0·20	0·04	0·19	0·04	0·19	0·04	0·19	0·04	0·19	0·03	0·18	0·04	0·18	0·03	0·18	0·03	160
170	0·25	0·05	0·25	0·05	0·24	0·05	0·24	0·05	0·23	0·05	0·23	0·05	0·23	0·04	0·22	0·05	0·22	0·04	0·21	0·05	0·21	0·04	170
180	0·30	0·05	0·30	0·05	0·29	0·05	0·29	0·05	0·28	0·05	0·28	0·05	0·27	0·05	0·27	0·05	0·26	0·05	0·26	0·05	0·25	0·05	180
190	0·35	0·06	0·35	0·05	0·34	0·06	0·34	0·05	0·33	0·05	0·33	0·05	0·32	0·05	0·32	0·05	0·31	0·05	0·31	0·05	0·30	0·05	190
200	0·41	0·06	0·40	0·06	0·40	0·06	0·39	0·06	0·38	0·06	0·38	0·06	0·37	0·06	0·37	0·05	0·36	0·05	0·36	0·05	0·35	0·05	**200**
210	0·47	0·08	0·46	0·08	0·46	0·07	0·45	0·07	0·44	0·07	0·44	0·07	0·43	0·06	0·42	0·06	0·41	0·06	0·41	0·06	0·40	0·06	210
220	0·55	0·08	0·54	0·08	0·53	0·08	0·52	0·07	0·51	0·07	0·51	0·07	0·49	0·07	0·48	0·07	0·47	0·07	0·47	0·06	0·46	0·06	220
230	0·63	0·08	0·62	0·08	0·61	0·08	0·59	0·08	0·58	0·08	0·58	0·07	0·56	0·08	0·55	0·08	0·54	0·07	0·53	0·07	0·52	0·07	230
240	0·71	0·09	0·70	0·09	0·69	0·08	0·67	0·09	0·66	0·09	0·65	0·09	0·64	0·08	0·63	0·08	0·61	0·09	0·60	0·08	0·59	0·08	240
250	0·80	0·10	0·79	0·10	0·77	0·10	0·76	0·10	0·75	0·09	0·74	0·09	0·72	0·09	0·71	0·09	0·70	0·09	0·68	0·09	0·67	0·09	250
260	0·90	0·11	0·89	0·10	0·87	0·11	0·86	0·10	0·84	0·10	0·83	0·10	0·81	0·10	0·80	0·10	0·79	0·09	0·77	0·10	0·76	0·09	260
270	1·01	0·11	0·99	0·11	0·98	0·11	0·96	0·11	0·94	0·11	0·93	0·11	0·91	0·11	0·90	0·10	0·88	0·10	0·87	0·10	0·85	0·10	270
280	1·12	0·13	1·10	0·13	1·09	0·12	1·07	0·12	1·05	0·12	1·04	0·11	1·02	0·11	1·00	0·11	0·98	0·11	0·97	0·10	0·95	0·10	280
290	1·25	0·13	1·23	0·13	1·21	0·13	1·19	0·12	1·17	0·12	1·15	0·12	1·13	0·12	1·11	0·12	1·09	0·11	1·07	0·11	1·05	0·11	290
300	1·38	0·14	1·36	0·14	1·34	0·13	1·31	0·14	1·29	0·13	1·27	0·13	1·25	0·13	1·23	0·12	1·20	0·13	1·18	0·12	1·16	0·12	**300**
310	1·52	0·16	1·50	0·15	1·47	0·15	1·45	0·15	1·42	0·15	1·40	0·14	1·38	0·14	1·35	0·14	1·33	0·13	1·30	0·13	1·28	0·13	310
320	1·68	0·16	1·65	0·16	1·62	0·16	1·60	0·15	1·57	0·15	1·54	0·15	1·52	0·14	1·49	0·14	1·46	0·14	1·43	0·14	1·41	0·13	320
330	1·84	0·17	1·81	0·17	1·78	0·17	1·75	0·16	1·72	0·16	1·69	0·16	1·66	0·16	1·63	0·16	1·60	0·15	1·57	0·15	1·54	0·15	330
340	2·01	0·18	1·98	0·18	1·95	0·17	1·91	0·18	1·88	0·17	1·85	0·17	1·82	0·16	1·79	0·16	1·75	0·16	1·72	0·16	1·69	0·15	340
350	2·19	0·19	2·16	0·18	2·12	0·18	2·09	0·18	2·05	0·18	2·02	0·17	1·98	0·17	1·95	0·16	1·91	0·17	1·88	0·16	1·84	0·16	350
360	2·38	0·20	2·34	0·20	2·30	0·20	2·27	0·19	2·23	0·19	2·19	0·19	2·15	0·18	2·11	0·18	2·08	0·17	2·04	0·17	2·00	0·17	360
370	2·58	0·21	2·54	0·21	2·50	0·20	2·46	0·20	2·42	0·20	2·38	0·19	2·33	0·20	2·29	0·19	2·25	0·19	2·21	0·18	2·17	0·18	370
380	2·79	0·23	2·75	0·22	2·70	0·22	2·66	0·22	2·62	0·21	2·57	0·21	2·53	0·20	2·48	0·20	2·44	0·20	2·39	0·20	2·35	0·19	380
390	3·02	0·23	2·97	0·23	2·92	0·23	2·88	0·22	2·83	0·22	2·78	0·22	2·73	0·21	2·68	0·21	2·64	0·20	2·59	0·20	2·54	0·20	390
400	3·25	0·25	3·20	0·25	3·15	0·24	3·10	0·24	3·05	0·23	3·00	0·23	2·94	0·23	2·89	0·23	2·84	0·22	2·79	0·22	2·74	0·21	**400**
410	3·50	0·26	3·45	0·25	3·39	0·25	3·34	0·24	3·28	0·24	3·23	0·24	3·17	0·24	3·12	0·23	3·06	0·23	3·01	0·22	2·95	0·22	410
420	3·76	0·27	3·70	0·26	3·64	0·26	3·58	0·26	3·52	0·26	3·47	0·25	3·41	0·24	3·35	0·24	3·29	0·24	3·23	0·23	3·17	0·23	420
430	4·03	0·28	3·96	0·28	3·90	0·28	3·84	0·27	3·78	0·26	3·72	0·26	3·65	0·26	3·59	0·25	3·53	0·24	3·46	0·25	3·40	0·24	430
440	4·31	0·30	4·24	0·30	4·18	0·29	4·11	0·28	4·04	0·28	3·98	0·27	3·91	0·27	3·84	0·27	3·77	0·26	3·71	0·25	3·64	0·25	440
450	4·61	0·31	4·54	0·30	4·47	0·30	4·39	0·29	4·32	0·29	4·25	0·29	4·18	0·28	4·11	0·27	4·03	0·27	3·96	0·27	3·89	0·26	450
460	4·92	0·32	4·84	0·32	4·77	0·31	4·68	0·31	4·61	0·30	4·54	0·29	4·46	0·29	4·38	0·29	4·30	0·28	4·23	0·27	4·15	0·27	460
470	5·24	0·34	5·16	0·33	5·08	0·32	4·99	0·32	4·91	0·32	4·83	0·31	4·75	0·30	4·67	0·30	4·58	0·30	4·50	0·29	4·42	0·28	470
480	5·58	0·35	5·49	0·35	5·40	0·34	5·31	0·34	5·23	0·33	5·14	0·33	5·05	0·32	4·97	0·31	4·88	0·31	4·79	0·30	4·70	0·30	480
490	5·93	0·37	5·84	0·36	5·74	0·36	5·65	0·35	5·56	0·34	5·47	0·34	5·37	0·34	5·28	0·33	5·19	0·32	5·09	0·32	5·00	0·31	490
500	6·30		6·20		6·10		6·00		5·90		5·81		5·71		5·61		5·51		5·41		5·31		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 2400—2600.

	2400	Diff.	2420	Diff.	2440	Diff.	2460	Diff.	2480	Diff.	2500	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
60	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
70	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00
80	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
90	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
100	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02
110	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·01	0·06	0·01	0·06	0·01
120	0·08	0·02	0·08	0·02	0·08	0·02	0·07	0·02	0·07	0·02	0·07	0·02
130	0·10	0·02	0·10	0·02	0·10	0·02	0·09	0·02	0·09	0·02	0·09	0·02
140	0·12	0·03	0·12	0·03	0·12	0·02	0·11	0·03	0·11	0·03	0·11	0·03
150	0·15	0·03	0·15	0·03	0·14	0·03	0·14	0·03	0·14	0·03	0·14	0·03
160	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	0·17	0·03	0·17	0·03
170	0·21	0·04	0·21	0·04	0·20	0·04	0·20	0·04	0·20	0·04	0·20	0·03
180	0·25	0·05	0·25	0·04	0·24	0·05	0·24	0·04	0·24	0·04	0·23	0·04
190	0·30	0·05	0·29	0·05	0·29	0·05	0·28	0·05	0·28	0·05	0·27	0·05
200	0·35	0·05	0·34	0·05	0·34	0·05	0·33	0·05	0·33	0·05	0·32	0·05
210	0·40	0·06	0·39	0·06	0·39	0·06	0·38	0·06	0·38	0·05	0·37	0·06
220	0·46	0·06	0·45	0·06	0·45	0·06	0·44	0·06	0·43	0·06	0·43	0·06
230	0·52	0·07	0·51	0·07	0·51	0·07	0·50	0·07	0·49	0·07	0·49	0·07
240	0·59	0·08	0·58	0·08	0·58	0·07	0·57	0·07	0·56	0·07	0·56	0·07
250	0·67	0·09	0·66	0·09	0·65	0·09	0·64	0·08	0·63	0·08	0·63	0·08
260	0·76	0·09	0·75	0·09	0·74	0·09	0·72	0·09	0·71	0·09	0·71	0·08
270	0·85	0·10	0·84	0·10	0·83	0·09	0·81	0·10	0·80	0·09	0·79	0·09
280	0·95	0·10	0·94	0·10	0·92	0·10	0·91	0·10	0·89	0·10	0·88	0·10
290	1·05	0·11	1·04	0·10	1·02	0·11	1·01	0·10	0·99	0·10	0·98	0·10
300	1·16	0·12	1·14	0·12	1·13	0·11	1·11	0·11	1·09	0·11	1·08	0·11
310	1·28	0·13	1·26	0·13	1·24	0·13	1·22	0·12	1·20	0·12	1·19	0·12
320	1·41	0·13	1·39	0·13	1·37	0·13	1·34	0·13	1·32	0·13	1·31	0·12
330	1·54	0·15	1·52	0·14	1·50	0·14	1·47	0·15	1·45	0·14	1·43	0·14
340	1·69	0·15	1·66	0·15	1·64	0·15	1·62	0·14	1·59	0·14	1·57	0·14
350	1·84	0·16	1·81	0·16	1·79	0·15	1·76	0·15	1·73	0·15	1·71	0·15
360	2·00	0·17	1·97	0·17	1·94	0·17	1·91	0·17	1·88	0·16	1·86	0·16
370	2·17	0·18	2·14	0·18	2·11	0·17	2·08	0·17	2·04	0·17	2·02	0·16
380	2·35	0·19	2·32	0·18	2·28	0·19	2·25	0·18	2·21	0·18	2·18	0·18
390	2·54	0·20	2·50	0·20	2·47	0·19	2·43	0·19	2·39	0·19	2·36	0·18
400	2·74	0·21	2·70	0·21	2·66	0·20	2·62	0·20	2·58	0·20	2·54	0·20
410	2·95	0·22	2·91	0·21	2·86	0·22	2·82	0·21	2·78	0·21	2·74	0·20
420	3·17	0·23	3·12	0·23	3·08	0·22	3·03	0·22	2·99	0·21	2·94	0·22
430	3·40	0·24	3·35	0·24	3·30	0·23	3·25	0·23	3·20	0·23	3·16	0·22
440	3·64	0·25	3·59	0·24	3·53	0·25	3·48	0·24	3·43	0·23	3·38	0·23
450	3·89	0·26	3·83	0·26	3·78	0·25	3·72	0·25	3·66	0·25	3·61	0·24
460	4·15	0·27	4·09	0·27	4·03	0·26	3·97	0·26	3·91	0·25	3·85	0·25
470	4·42	0·28	4·36	0·28	4·29	0·27	4·23	0·27	4·16	0·27	4·10	0·26
480	4·70	0·30	4·64	0·29	4·56	0·29	4·50	0·28	4·43	0·28	4·36	0·28
490	5·00	0·31	4·93	0·30	4·85	0·31	4·78	0·30	4·71	0·29	4·64	0·29
500	5·31		5·23		5·16		5·08		5·00		4·93	

2520	Diff.	2540	Diff.	2560	Diff.	2580	Diff.	2600	Diff.	
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	70
0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	80
0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	90
0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	**100**
0·05	0·02	0·05	0·02	0·05	0·01	0·05	0·01	0·05	0·01	110
0·07	0·02	0·07	0·02	0·06	0·02	0·06	0·02	0·06	0·02	120
0·09	0·02	0·09	0·02	0·08	0·02	0·08	0·02	0·08	0·02	130
0·11	0·02	0·11	0·02	0·10	0·03	0·10	0·02	0·10	0·02	140
0·13	0·03	0·13	0·03	0·13	0·03	0·12	0·03	0·12	0·03	150
0·16	0·03	0·16	0·03	0·16	0·03	0·15	0·03	0·15	0·03	160
0·19	0·04	0·19	0·03	0·19	0·03	0·18	0·03	0·18	0·03	170
0·23	0·04	0·22	0·04	0·22	0·04	0·21	0·04	0·21	0·04	180
0·27	0·04	0·26	0·05	0·26	0·04	0·25	0·05	0·25	0·04	190
0·31	0·05	0·31	0·05	0·30	0·05	0·30	0·05	0·29	0·05	**200**
0·36	0·06	0·36	0·05	0·35	0·05	0·35	0·05	0·34	0·05	210
0·42	0·06	0·41	0·06	0·40	0·06	0·40	0·06	0·39	0·06	220
0·48	0·06	0·47	0·06	0·46	0·07	0·46	0·06	0·45	0·06	230
0·54	0·07	0·53	0·07	0·53	0·07	0·52	0·07	0·51	0·07	240
0·61	0·08	0·60	0·08	0·60	0·07	0·59	0·07	0·58	0·07	250
0·69	0·09	0·68	0·08	0·67	0·08	0·66	0·08	0·65	0·08	260
0·78	0·09	0·76	0·09	0·75	0·09	0·74	0·08	0·73	0·08	270
0·87	0·09	0·85	0·09	0·84	0·09	0·82	0·09	0·81	0·09	280
0·96	0·10	0·94	0·10	0·93	0·09	0·91	0·10	0·90	0·09	290
1·06	0·11	1·04	0·11	1·02	0·11	1·01	0·10	0·99	0·10	**300**
1·17	0·11	1·15	0·11	1·13	0·11	1·11	0·11	1·09	0·11	310
1·28	0·13	1·26	0·13	1·24	0·12	1·22	0·12	1·20	0·12	320
1·41	0·13	1·39	0·13	1·36	0·13	1·34	0·13	1·32	0·12	330
1·54	0·14	1·52	0·13	1·49	0·13	1·47	0·13	1·44	0·13	340
1·68	0·15	1·65	0·15	1·62	0·15	1·60	0·14	1·57	0·14	350
1·83	0·15	1·80	0·15	1·77	0·15	1·74	0·15	1·71	0·15	360
1·98	0·17	1·95	0·16	1·92	0·16	1·89	0·15	1·86	0·15	370
2·15	0·17	2·11	0·17	2·08	0·16	2·04	0·17	2·01	0·16	380
2·32	0·18	2·28	0·18	2·24	0·18	2·21	0·17	2·17	0·17	390
2·50	0·19	2·46	0·19	2·42	0·19	2·38	0·18	2·34	0·18	**400**
2·69	0·20	2·65	0·20	2·61	0·19	2·56	0·20	2·52	0·19	410
2·89	0·21	2·85	0·21	2·80	0·21	2·76	0·20	2·71	0·20	420
3·10	0·22	3·06	0·21	3·01	0·21	2·96	0·20	2·91	0·20	430
3·32	0·23	3·27	0·22	3·22	0·22	3·16	0·22	3·11	0·21	440
3·55	0·24	3·49	0·24	3·44	0·23	3·38	0·23	3·32	0·23	450
3·79	0·25	3·73	0·24	3·67	0·24	3·61	0·23	3·55	0·23	460
4·04	0·25	3·97	0·25	3·91	0·25	3·84	0·25	3·78	0·24	470
4·29	0·27	4·22	0·27	4·16	0·26	4·09	0·26	4·02	0·25	480
4·56	0·29	4·49	0·28	4·42	0·27	4·35	0·27	4·27	0·27	490
4·85		4·77		4·69		4·62		4·54		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 2600—2800.

	2600	Diff.	2620	Diff.	2640	Diff.	2660	Diff.	2680	Diff.	2700	Diff.	2720	Diff.	2740	Diff.	2760	Diff.	2780	Diff.	2800	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	70
80	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	80
90	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	90
100	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	**100**
110	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	110
120	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	120
130	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	130
140	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	140
150	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·02	0·12	0·02	0·12	0·02	0·11	0·03	0·11	0·03	0·11	0·02	0·11	0·02	0·11	0·02	150
160	0·15	0·03	0·15	0·03	0·15	0·03	0·14	0·03	0·14	0·03	0·14	0·03	0·14	0·03	0·14	0·03	0·13	0·03	0·13	0·03	0·13	0·03	160
170	0·18	0·03	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	0·17	0·03	0·17	0·03	0·17	0·03	0·16	0·03	0·16	0·03	0·16	0·03	170
180	0·21	0·04	0·21	0·04	0·21	0·03	0·20	0·04	0·20	0·04	0·20	0·04	0·20	0·03	0·20	0·03	0·19	0·04	0·19	0·03	0·19	0·03	180
190	0·25	0·04	0·25	0·04	0·24	0·04	0·24	0·04	0·24	0·04	0·24	0·04	0·23	0·04	0·23	0·04	0·23	0·04	0·22	0·04	0·22	0·04	190
200	0·29	0·05	0·29	0·05	0·28	0·05	0·28	0·05	0·28	0·04	0·28	0·04	0·27	0·04	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	**200**
210	0·34	0·05	0·34	0·05	0·33	0·05	0·33	0·05	0·32	0·05	0·32	0·05	0·31	0·05	0·31	0·05	0·31	0·05	0·30	0·05	0·30	0·04	210
220	0·39	0·06	0·39	0·05	0·38	0·06	0·38	0·05	0·37	0·05	0·37	0·05	0·36	0·05	0·36	0·05	0·35	0·05	0·35	0·05	0·34	0·05	220
230	0·45	0·06	0·44	0·06	0·44	0·06	0·43	0·06	0·42	0·06	0·42	0·06	0·41	0·06	0·41	0·05	0·40	0·05	0·40	0·05	0·39	0·05	230
240	0·51	0·07	0·50	0·07	0·50	0·06	0·49	0·06	0·48	0·06	0·48	0·06	0·47	0·06	0·46	0·06	0·45	0·06	0·45	0·06	0·44	0·06	240
250	0·58	0·07	0·57	0·07	0·56	0·07	0·55	0·07	0·54	0·07	0·54	0·07	0·53	0·06	0·52	0·06	0·51	0·07	0·51	0·06	0·50	0·06	250
260	0·65	0·08	0·64	0·08	0·63	0·08	0·62	0·08	0·61	0·08	0·61	0·07	0·59	0·07	0·58	0·07	0·58	0·07	0·57	0·06	0·56	0·06	260
270	0·73	0·08	0·72	0·08	0·71	0·08	0·70	0·08	0·69	0·08	0·68	0·08	0·66	0·08	0·65	0·08	0·65	0·07	0·63	0·07	0·62	0·07	270
280	0·81	0·09	0·80	0·09	0·79	0·08	0·78	0·08	0·77	0·08	0·76	0·08	0·74	0·08	0·73	0·08	0·72	0·08	0·70	0·08	0·69	0·08	280
290	0·90	0·09	0·89	0·09	0·87	0·09	0·86	0·09	0·85	0·08	0·84	0·08	0·82	0·09	0·81	0·08	0·80	0·08	0·78	0·08	0·77	0·08	290
300	0·99	0·10	0·98	0·10	0·96	0·10	0·95	0·10	0·93	0·10	0·92	0·10	0·91	0·09	0·89	0·10	0·88	0·09	0·86	0·10	0·85	0·09	**300**
310	1·09	0·11	1·08	0·10	1·06	0·11	1·05	0·10	1·03	0·11	1·02	0·10	1·00	0·10	0·99	0·10	0·97	0·10	0·96	0·10	0·94	0·10	310
320	1·20	0·12	1·18	0·12	1·17	0·11	1·15	0·11	1·14	0·11	1·12	0·11	1·10	0·11	1·09	0·10	1·07	0·10	1·06	0·10	1·04	0·10	320
330	1·32	0·12	1·30	0·12	1·28	0·12	1·26	0·12	1·25	0·11	1·23	0·11	1·21	0·11	1·19	0·11	1·17	0·11	1·16	0·11	1·14	0·10	330
340	1·44	0·13	1·42	0·13	1·40	0·13	1·38	0·13	1·36	0·12	1·34	0·12	1·32	0·12	1·30	0·12	1·28	0·12	1·27	0·11	1·24	0·11	340
350	1·57	0·14	1·55	0·14	1·53	0·13	1·51	0·13	1·48	0·13	1·46	0·13	1·44	0·13	1·42	0·12	1·40	0·12	1·38	0·11	1·35	0·12	350
360	1·71	0·15	1·69	0·14	1·66	0·14	1·64	0·14	1·61	0·14	1·59	0·14	1·57	0·13	1·54	0·13	1·52	0·13	1·49	0·13	1·47	0·13	360
370	1·86	0·15	1·83	0·15	1·80	0·15	1·78	0·15	1·75	0·15	1·73	0·14	1·70	0·14	1·67	0·14	1·65	0·14	1·62	0·14	1·60	0·13	370
380	2·01	0·16	1·98	0·16	1·95	0·16	1·93	0·15	1·90	0·15	1·87	0·15	1·84	0·15	1·81	0·15	1·79	0·14	1·76	0·14	1·73	0·14	380
390	2·17	0·17	2·14	0·17	2·11	0·17	2·08	0·16	2·05	0·16	2·02	0·16	1·99	0·16	1·96	0·16	1·93	0·15	1·90	0·15	1·87	0·15	390
400	2·34	0·18	2·31	0·18	2·28	0·17	2·24	0·18	2·21	0·17	2·18	0·17	2·15	0·16	2·12	0·16	2·08	0·16	2·05	0·16	2·02	0·15	**400**
410	2·52	0·19	2·49	0·18	2·45	0·19	2·42	0·18	2·38	0·18	2·35	0·18	2·31	0·18	2·28	0·17	2·24	0·17	2·21	0·17	2·17	0·17	410
420	2·71	0·20	2·67	0·20	2·64	0·19	2·60	0·19	2·56	0·19	2·53	0·18	2·49	0·18	2·45	0·18	2·41	0·18	2·38	0·17	2·34	0·17	420
430	2·91	0·20	2·87	0·20	2·83	0·19	2·79	0·19	2·75	0·19	2·71	0·19	2·67	0·18	2·63	0·18	2·59	0·18	2·55	0·17	2·51	0·17	430
440	3·11	0·21	3·07	0·21	3·02	0·21	2·98	0·21	2·94	0·20	2·90	0·20	2·85	0·20	2·81	0·20	2·77	0·19	2·72	0·19	2·68	0·19	440
450	3·32	0·23	3·28	0·22	3·23	0·22	3·19	0·21	3·14	0·21	3·10	0·21	3·05	0·21	3·01	0·20	2·96	0·20	2·91	0·20	2·87	0·19	450
460	3·55	0·23	3·50	0·23	3·45	0·23	3·40	0·23	3·35	0·22	3·31	0·22	3·26	0·21	3·21	0·21	3·16	0·21	3·11	0·21	3·06	0·21	460
470	3·78	0·24	3·73	0·24	3·68	0·23	3·63	0·23	3·57	0·23	3·53	0·22	3·47	0·22	3·42	0·22	3·37	0·22	3·32	0·21	3·27	0·21	470
480	4·02	0·25	3·97	0·25	3·91	0·24	3·86	0·24	3·80	0·24	3·75	0·23	3·69	0·23	3·64	0·23	3·59	0·22	3·53	0·22	3·48	0·21	480
490	4·27	0·27	4·22	0·26	4·15	0·26	4·10	0·25	4·04	0·25	3·98	0·25	3·92	0·25	3·87	0·24	3·81	0·23	3·75	0·23	3·69	0·23	490
500	4·54		4·48		4·41		4·35		4·29		4·23		4·17		4·11		4·04		3·98		3·92		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 2800—3000.

	2800	Diff.	2820	Diff.	2840	Diff.	2860	Diff.	2880	Diff.	2900	Diff.	2920	Diff.	2940	Diff.	2960	Diff.	2980	Diff.	3000	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
80	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	80
90	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	90
100	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	**100**
110	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	110
120	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	120
130	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	130
140	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·01	0·09	0·01	0·09	0·01	0·08	0·02	0·08	0·02	0·08	0·01	0·08	0·01	0·08	0·01	140
150	0·11	0·02	0·11	0·02	0·11	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·09	0·02	0·09	0·02	0·09	0·02	150
160	0·13	0·03	0·13	0·03	0·13	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·11	0·03	0·11	0·03	0·11	0·03	160
170	0·16	0·03	0·16	0·03	0·16	0·02	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·02	0·15	0·02	0·14	0·03	0·14	0·02	0·14	0·02	170
180	0·19	0·03	0·19	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	0·17	0·03	0·16	0·03	0·16	0·03	180
190	0·22	0·04	0·22	0·04	0·21	0·04	0·21	0·04	0·21	0·03	0·21	0·03	0·20	0·04	0·20	0·03	0·20	0·03	0·19	0·03	0·19	0·03	190
200	0·26	0·04	0·26	0·04	0·25	0·04	0·25	0·04	0·24	0·04	0·24	0·04	0·24	0·04	0·23	0·04	0·23	0·04	0·22	0·04	0·22	0·04	**200**
210	0·30	0·04	0·30	0·04	0·29	0·04	0·29	0·04	0·28	0·04	0·28	0·04	0·28	0·04	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	210
220	0·34	0·05	0·34	0·05	0·33	0·05	0·33	0·05	0·32	0·05	0·32	0·05	0·32	0·04	0·31	0·05	0·31	0·04	0·30	0·05	0·30	0·04	220
230	0·39	0·05	0·39	0·05	0·38	0·05	0·38	0·05	0·37	0·05	0·37	0·05	0·36	0·05	0·36	0·04	0·35	0·04	0·35	0·04	0·34	0·04	230
240	0·44	0·06	0·44	0·05	0·43	0·05	0·43	0·05	0·42	0·05	0·42	0·05	0·41	0·05	0·40	0·05	0·39	0·05	0·39	0·05	0·38	0·05	240
250	0·50	0·06	0·49	0·06	0·48	0·06	0·48	0·06	0·47	0·06	0·47	0·05	0·46	0·05	0·45	0·05	0·44	0·06	0·44	0·05	0·43	0·06	250
260	0·56	0·06	0·55	0·06	0·54	0·06	0·54	0·06	0·53	0·06	0·52	0·06	0·51	0·06	0·50	0·06	0·50	0·06	0·49	0·06	0·49	0·05	260
270	0·62	0·07	0·61	0·07	0·60	0·07	0·60	0·07	0·59	0·07	0·58	0·07	0·57	0·07	0·56	0·07	0·56	0·07	0·55	0·07	0·54	0·07	270
280	0·69	0·08	0·68	0·08	0·67	0·08	0·67	0·07	0·66	0·07	0·65	0·07	0·64	0·07	0·63	0·07	0·63	0·07	0·62	0·07	0·61	0·07	280
290	0·77	0·08	0·76	0·08	0·75	0·08	0·74	0·08	0·73	0·08	0·72	0·08	0·71	0·08	0·70	0·08	0·70	0·07	0·69	0·07	0·68	0·07	290
300	0·85	0·09	0·84	0·09	0·83	0·09	0·82	0·08	0·81	0·08	0·80	0·08	0·79	0·08	0·78	0·08	0·77	0·08	0·76	0·07	0·75	0·07	**300**
310	0·94	0·10	0·93	0·10	0·92	0·09	0·90	0·09	0·89	0·09	0·88	0·09	0·87	0·09	0·86	0·08	0·85	0·08	0·83	0·08	0·82	0·08	310
320	1·04	0·10	1·03	0·10	1·01	0·10	0·99	0·10	0·98	0·10	0·97	0·09	0·96	0·09	0·94	0·09	0·93	0·09	0·91	0·09	0·90	0·09	320
330	1·14	0·10	1·13	0·10	1·11	0·10	1·09	0·10	1·08	0·10	1·06	0·10	1·05	0·09	1·03	0·10	1·02	0·09	1·00	0·10	0·99	0·09	330
340	1·24	0·11	1·23	0·11	1·21	0·11	1·19	0·11	1·18	0·11	1·16	0·11	1·14	0·11	1·13	0·10	1·11	0·11	1·10	0·10	1·08	0·10	340
350	1·35	0·12	1·34	0·11	1·32	0·11	1·30	0·12	1·29	0·11	1·27	0·11	1·25	0·11	1·23	0·11	1·22	0·11	1·20	0·11	1·18	0·11	350
360	1·47	0·13	1·45	0·13	1·43	0·13	1·42	0·12	1·40	0·12	1·38	0·12	1·36	0·12	1·34	0·12	1·33	0·11	1·31	0·11	1·29	0·11	360
370	1·60	0·13	1·58	0·13	1·56	0·13	1·54	0·12	1·52	0·12	1·50	0·12	1·48	0·12	1·46	0·12	1·44	0·11	1·42	0·11	1·40	0·11	370
380	1·73	0·14	1·71	0·14	1·69	0·13	1·66	0·14	1·64	0·13	1·62	0·13	1·60	0·13	1·58	0·12	1·55	0·13	1·53	0·12	1·51	0·12	380
390	1·87	0·15	1·85	0·14	1·82	0·15	1·80	0·14	1·77	0·14	1·75	0·14	1·73	0·13	1·70	0·14	1·68	0·13	1·65	0·14	1·63	0·13	390
400	2·02	0·15	1·99	0·15	1·97	0·15	1·94	0·15	1·91	0·15	1·89	0·15	1·86	0·15	1·84	0·14	1·81	0·14	1·79	0·14	1·76	0·14	**400**
410	2·17	0·17	2·14	0·17	2·12	0·16	2·09	0·16	2·06	0·16	2·04	0·15	2·01	0·15	1·98	0·15	1·95	0·15	1·93	0·14	1·90	0·14	410
420	2·34	0·17	2·31	0·17	2·28	0·16	2·25	0·16	2·22	0·16	2·19	0·16	2·16	0·16	2·13	0·15	2·10	0·15	2·07	0·15	2·04	0·15	420
430	2·51	0·17	2·48	0·17	2·44	0·17	2·41	0·17	2·38	0·16	2·35	0·16	2·32	0·16	2·28	0·16	2·25	0·16	2·22	0·15	2·19	0·15	430
440	2·68	0·19	2·65	0·18	2·61	0·18	2·58	0·18	2·54	0·18	2·51	0·18	2·48	0·17	2·44	0·17	2·41	0·16	2·37	0·17	2·34	0·16	440
450	2·87	0·19	2·83	0·19	2·79	0·19	2·76	0·18	2·72	0·18	2·69	0·18	2·65	0·18	2·61	0·18	2·57	0·18	2·54	0·17	2·50	0·17	450
460	3·06	0·21	3·02	0·21	2·98	0·20	2·94	0·20	2·90	0·20	2·87	0·19	2·83	0·19	2·79	0·19	2·75	0·18	2·71	0·18	2·67	0·18	460
470	3·27	0·21	3·23	0·21	3·18	0·21	3·14	0·20	3·10	0·20	3·06	0·20	3·02	0·19	2·98	0·19	2·93	0·19	2·89	0·19	2·85	0·18	470
480	3·48	0·21	3·44	0·21	3·39	0·21	3·34	0·21	3·30	0·21	3·26	0·20	3·21	0·20	3·17	0·20	3·12	0·20	3·08	0·19	3·03	0·19	480
490	3·69	0·23	3·65	0·23	3·60	0·22	3·55	0·22	3·51	0·21	3·46	0·21	3·41	0·21	3·37	0·20	3·32	0·20	3·27	0·20	3·22	0·20	490
500	3·92		3·88		3·82		3·77		3·72		3·67		3·62		3·57		3·52		3·47		3·42		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 3000—3200.

	3000	Diff.	3020	Diff.	3040	Diff.	3060	Diff.	3080	Diff.	3100	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
80	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
90	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
100	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
110	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01
120	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01
130	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02
140	0·08	0·01	0·08	0·01	0·08	0·01	0·08	0·01	0·08	0·01	0·08	0·01
150	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02
160	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·02	0·11	0·02	0·11	0·02
170	0·14	0·02	0·14	0·02	0·14	0·02	0·13	0·02	0·13	0·02	0·13	0·02
180	0·16	0·03	0·16	0·03	0·16	0·03	0·15	0·03	0·15	0·03	0·15	0·03
190	0·19	0·03	0·19	0·03	0·19	0·03	0·18	0·03	0·18	0·03	0·18	0·03
200	0·22	0·04	0·22	0·04	0·22	0·03	0·21	0·04	0·21	0·04	0·21	0·04
210	0·26	0·04	0·26	0·04	0·25	0·04	0·25	0·04	0·25	0·03	0·25	0·03
220	0·30	0·04	0·30	0·04	0·29	0·04	0·29	0·04	0·28	0·04	0·28	0·04
230	0·34	0·04	0·34	0·04	0·33	0·04	0·33	0·04	0·32	0·04	0·32	0·04
240	0·38	0·05	0·38	0·05	0·37	0·05	0·37	0·05	0·36	0·05	0·36	0·05
250	0·43	0·06	0·43	0·05	0·42	0·05	0·42	0·05	0·41	0·06	0·41	0·05
260	0·49	0·06	0·48	0·05	0·47	0·06	0·47	0·05	0·47	0·05	0·46	0·05
270	0·55	0·06	0·53	0·06	0·53	0·06	0·52	0·06	0·52	0·06	0·51	0·06
280	0·61	0·07	0·59	0·07	0·59	0·06	0·58	0·07	0·58	0·06	0·57	0·06
290	0·68	0·07	0·66	0·08	0·65	0·07	0·65	0·07	0·64	0·07	0·63	0·07
300	0·75	0·07	0·74	0·07	0·72	0·08	0·72	0·07	0·71	0·07	0·70	0·07
310	0·82	0·08	0·81	0·08	0·80	0·08	0·79	0·08	0·78	0·08	0·77	0·08
320	0·90	0·09	0·89	0·09	0·88	0·08	0·87	0·08	0·86	0·08	0·85	0·08
330	0·99	0·09	0·98	0·09	0·96	0·09	0·95	0·09	0·94	0·09	0·93	0·09
340	1·08	0·10	1·07	0·10	1·05	0·10	1·04	0·10	1·03	0·09	1·02	0·09
350	1·18	0·11	1·17	0·10	1·15	0·10	1·14	0·10	1·12	0·10	1·11	0·10
360	1·29	0·11	1·27	0·11	1·25	0·11	1·24	0·11	1·22	0·11	1·21	0·10
370	1·40	0·11	1·38	0·11	1·36	0·11	1·35	0·11	1·33	0·11	1·31	0·11
380	1·51	0·12	1·49	0·12	1·47	0·12	1·46	0·12	1·44	0·12	1·42	0·12
390	1·63	0·13	1·61	0·13	1·59	0·13	1·58	0·12	1·56	0·12	1·54	0·12
400	1·76	0·14	1·74	0·14	1·72	0·13	1·70	0·13	1·68	0·13	1·66	0·13
410	1·90	0·14	1·88	0·14	1·85	0·14	1·83	0·14	1·81	0·13	1·79	0·13
420	2·04	0·15	2·02	0·14	1·99	0·14	1·97	0·14	1·94	0·14	1·92	0·14
430	2·19	0·15	2·16	0·15	2·13	0·15	2·11	0·15	2·08	0·15	2·06	0·14
440	2·34	0·16	2·31	0·16	2·28	0·16	2·26	0·15	2·23	0·15	2·20	0·15
450	2·50	0·17	2·47	0·17	2·44	0·17	2·41	0·16	2·38	0·16	2·35	0·16
460	2·67	0·18	2·64	0·18	2·61	0·17	2·57	0·17	2·54	0·17	2·51	0·17
470	2·85	0·18	2·82	0·18	2·78	0·18	2·74	0·18	2·71	0·18	2·68	0·17
480	3·03	0·19	3·00	0·19	2·96	0·19	2·92	0·19	2·89	0·18	2·85	0·18
490	3·22	0·20	3·19	0·19	3·15	0·19	3·11	0·19	3·07	0·19	3·03	0·19
500	3·42		3·38		3·34		3·30		3·26		3·22	

	3120	Diff.	3140	Diff.	3160	Diff.	3180	Diff.	3200	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
80	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	80
90	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	90
100	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**100**
110	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	110
120	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	120
130	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	130
140	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	140
150	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	150
160	0·10	0·03	0·10	0·03	0·10	0·02	0·10	0·02	0·10	0·02	160
170	0·13	0·02	0·13	0·02	0·12	0·02	0·12	0·02	0·12	0·02	170
180	0·15	0·03	0·15	0·03	0·14	0·03	0·14	0·03	0·14	0·03	180
190	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	0·17	0·03	190
200	0·21	0·03	0·21	0·03	0·20	0·04	0·20	0·03	0·20	0·03	**200**
210	0·24	0·04	0·24	0·03	0·24	0·03	0·23	0·03	0·23	0·03	210
220	0·28	0·04	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	220
230	0·32	0·04	0·31	0·04	0·31	0·04	0·30	0·04	0·30	0·04	230
240	0·36	0·04	0·35	0·05	0·35	0·04	0·34	0·05	0·34	0·04	240
250	0·40	0·05	0·40	0·05	0·39	0·05	0·39	0·05	0·38	0·05	250
260	0·45	0·05	0·45	0·05	0·44	0·05	0·44	0·05	0·43	0·05	260
270	0·50	0·06	0·50	0·05	0·49	0·06	0·49	0·05	0·48	0·05	270
280	0·56	0·06	0·55	0·06	0·55	0·06	0·54	0·06	0·53	0·06	280
290	0·62	0·07	0·61	0·07	0·61	0·06	0·60	0·06	0·59	0·06	290
300	0·69	0·07	0·68	0·07	0·67	0·07	0·66	0·07	0·65	0·07	**300**
310	0·76	0·08	0·75	0·08	0·74	0·08	0·73	0·08	0·72	0·07	310
320	0·84	0·08	0·83	0·08	0·82	0·08	0·81	0·07	0·79	0·08	320
330	0·92	0·08	0·91	0·08	0·90	0·08	0·88	0·08	0·87	0·08	330
340	1·00	0·09	0·99	0·09	0·98	0·09	0·96	0·09	0·95	0·09	340
350	1·09	0·10	1·08	0·10	1·07	0·09	1·05	0·10	1·04	0·09	350
360	1·19	0·10	1·18	0·10	1·16	0·10	1·15	0·10	1·13	0·10	360
370	1·29	0·11	1·28	0·10	1·26	0·11	1·25	0·10	1·23	0·10	370
380	1·40	0·11	1·38	0·11	1·37	0·11	1·35	0·11	1·33	0·11	380
390	1·51	0·12	1·49	0·12	1·48	0·12	1·46	0·11	1·44	0·11	390
400	1·63	0·13	1·61	0·13	1·60	0·12	1·57	0·12	1·55	0·12	**400**
410	1·76	0·13	1·74	0·13	1·72	0·13	1·69	0·13	1·67	0·12	410
420	1·89	0·14	1·87	0·13	1·85	0·13	1·82	0·13	1·79	0·13	420
430	2·03	0·14	2·00	0·14	1·98	0·14	1·95	0·14	1·92	0·14	430
440	2·17	0·15	2·14	0·15	2·12	0·14	2·09	0·14	2·06	0·14	440
450	2·32	0·16	2·29	0·16	2·26	0·15	2·23	0·15	2·20	0·15	450
460	2·48	0·17	2·45	0·16	2·41	0·16	2·38	0·16	2·35	0·16	460
470	2·65	0·17	2·61	0·17	2·57	0·17	2·54	0·17	2·51	0·16	470
480	2·82	0·17	2·78	0·18	2·74	0·18	2·71	0·17	2·67	0·17	480
490	2·99	0·19	2·96	0·18	2·92	0·18	2·88	0·18	2·84	0·18	490
500	3·18		3·14		3·10		3·06		3·02		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 3200—3400.

	3200	Diff.	3220	Diff.	3240	Diff.	3260	Diff.	3280	Diff.	3300	Diff.	3320	Diff.	3340	Diff.	3360	Diff.	3380	Diff.	3400	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	60
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
80	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	80
90	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	90
100	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**100**
110	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	110
120	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	120
130	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	130
140	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	140
150	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	150
160	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	160
170	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	170
180	0·14	0·03	0·14	0·03	0·14	0·03	0·14	0·02	0·14	0·02	0·14	0·02	0·13	0·03	0·13	0·03	0·13	0·02	0·13	0·02	0·13	0·02	180
190	0·17	0·03	0·17	0·03	0·17	0·02	0·16	0·03	0·16	0·03	0·16	0·03	0·16	0·02	0·16	0·02	0·15	0·03	0·15	0·02	0·15	0·02	190
200	0·20	0·03	0·20	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	**200**
210	0·23	0·03	0·23	0·03	0·22	0·03	0·22	0·03	0·22	0·03	0·22	0·03	0·21	0·03	0·21	0·03	0·21	0·03	0·20	0·03	0·20	0·03	210
220	0·26	0·04	0·26	0·04	0·25	0·04	0·25	0·04	0·25	0·03	0·25	0·03	0·24	0·04	0·24	0·03	0·24	0·03	0·23	0·03	0·23	0·03	220
230	0·30	0·04	0·30	0·04	0·29	0·04	0·29	0·04	0·28	0·04	0·28	0·04	0·28	0·04	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	230
240	0·34	0·04	0·34	0·04	0·33	0·04	0·33	0·04	0·32	0·04	0·32	0·04	0·32	0·04	0·31	0·04	0·31	0·04	0·30	0·04	0·30	0·04	240
250	0·38	0·05	0·38	0·05	0·37	0·05	0·37	0·05	0·36	0·05	0·36	0·05	0·36	0·04	0·35	0·05	0·35	0·04	0·34	0·05	0·34	0·04	250
260	0·43	0·05	0·43	0·04	0·42	0·05	0·42	0·04	0·41	0·05	0·41	0·04	0·40	0·04	0·40	0·04	0·39	0·04	0·39	0·04	0·38	0·04	260
270	0·48	0·05	0·47	0·05	0·47	0·05	0·46	0·05	0·46	0·05	0·45	0·05	0·44	0·05	0·44	0·05	0·43	0·05	0·43	0·05	0·42	0·05	270
280	0·53	0·06	0·52	0·06	0·52	0·06	0·51	0·06	0·51	0·05	0·50	0·06	0·49	0·06	0·49	0·05	0·48	0·05	0·48	0·05	0·47	0·05	280
290	0·59	0·06	0·58	0·06	0·58	0·06	0·57	0·06	0·56	0·06	0·56	0·06	0·55	0·06	0·54	0·06	0·53	0·06	0·53	0·06	0·52	0·06	290
300	0·65	0·07	0·64	0·07	0·64	0·06	0·63	0·07	0·62	0·07	0·62	0·06	0·61	0·06	0·60	0·06	0·59	0·07	0·59	0·06	0·58	0·06	**300**
310	0·72	0·07	0·71	0·07	0·70	0·07	0·70	0·07	0·69	0·07	0·68	0·07	0·67	0·07	0·66	0·07	0·66	0·06	0·65	0·07	0·64	0·07	310
320	0·79	0·08	0·78	0·08	0·77	0·08	0·77	0·07	0·76	0·07	0·75	0·07	0·74	0·07	0·73	0·07	0·72	0·07	0·72	0·06	0·71	0·06	320
330	0·87	0·08	0·86	0·08	0·85	0·08	0·84	0·08	0·83	0·08	0·82	0·08	0·81	0·08	0·80	0·07	0·79	0·07	0·78	0·07	0·77	0·07	330
340	0·95	0·09	0·94	0·09	0·93	0·08	0·92	0·08	0·91	0·08	0·90	0·08	0·89	0·08	0·87	0·08	0·86	0·08	0·85	0·08	0·84	0·08	340
350	1·04	0·09	1·03	0·09	1·01	0·09	1·00	0·09	0·99	0·09	0·98	0·09	0·97	0·08	0·95	0·09	0·94	0·09	0·93	0·08	0·92	0·08	350
360	1·13	0·10	1·12	0·10	1·10	0·10	1·09	0·10	1·08	0·09	1·07	0·09	1·05	0·09	1·04	0·09	1·03	0·09	1·01	0·09	1·00	0·09	360
370	1·23	0·10	1·22	0·10	1·20	0·10	1·19	0·10	1·17	0·10	1·16	0·10	1·14	0·10	1·13	0·10	1·12	0·09	1·10	0·10	1·09	0·09	370
380	1·33	0·11	1·32	0·10	1·30	0·11	1·29	0·10	1·27	0·10	1·26	0·10	1·24	0·10	1·23	0·10	1·21	0·10	1·20	0·10	1·18	0·10	380
390	1·44	0·11	1·42	0·11	1·41	0·11	1·39	0·11	1·37	0·11	1·36	0·11	1·34	0·11	1·33	0·10	1·31	0·10	1·30	0·10	1·28	0·10	390
400	1·55	0·12	1·53	0·12	1·52	0·11	1·50	0·11	1·48	0·11	1·47	0·11	1·45	0·11	1·43	0·11	1·41	0·11	1·40	0·10	1·38	0·10	**400**
410	1·67	0·12	1·65	0·12	1·63	0·12	1·61	0·12	1·59	0·12	1·58	0·12	1·56	0·11	1·54	0·11	1·52	0·11	1·50	0·11	1·48	0·11	410
420	1·79	0·13	1·77	0·13	1·75	0·13	1·73	0·13	1·71	0·13	1·70	0·12	1·67	0·12	1·65	0·12	1·63	0·12	1·61	0·12	1·59	0·12	420
430	1·92	0·14	1·90	0·14	1·88	0·13	1·86	0·13	1·84	0·13	1·82	0·13	1·79	0·13	1·77	0·13	1·75	0·12	1·73	0·12	1·71	0·12	430
440	2·06	0·14	2·04	0·14	2·01	0·14	1·99	0·14	1·97	0·13	1·95	0·13	1·92	0·13	1·90	0·13	1·87	0·13	1·85	0·13	1·83	0·12	440
450	2·20	0·15	2·18	0·14	2·15	0·15	2·13	0·14	2·10	0·14	2·08	0·14	2·05	0·14	2·03	0·13	2·00	0·13	1·98	0·13	1·95	0·13	450
460	2·35	0·16	2·32	0·16	2·30	0·15	2·27	0·15	2·24	0·15	2·22	0·15	2·19	0·15	2·16	0·15	2·13	0·15	2·11	0·14	2·08	0·14	460
470	2·51	0·16	2·48	0·16	2·45	0·16	2·42	0·16	2·39	0·16	2·37	0·15	2·34	0·15	2·31	0·15	2·28	0·15	2·25	0·15	2·22	0·15	470
480	2·67	0·17	2·64	0·17	2·61	0·17	2·58	0·16	2·55	0·16	2·52	0·16	2·49	0·16	2·46	0·16	2·43	0·15	2·40	0·15	2·37	0·15	480
490	2·84	0·18	2·81	0·18	2·78	0·17	2·74	0·18	2·71	0·17	2·68	0·17	2·65	0·16	2·62	0·16	2·58	0·16	2·55	0·16	2·52	0·15	490
500	3·02		2·99		2·95		2·92		2·88		2·85		2·81		2·78		2·74		2·71		2·67		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 3400—3600.

	3400	Diff.	3420	Diff.	3440	Diff.	3460	Diff.	3480	Diff.	3500	Diff.	3520	Diff.	3540	Diff.	3560	Diff.	3580	Diff.	3600	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	60
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
80	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	80
90	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	90
100	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**100**
110	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00	110
120	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	120
130	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	130
140	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	140
150	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	150
160	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·01	0·09	0·01	0·09	0·01	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	160
170	0·11	0·02	0·11	0·02	0·11	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·01	0·10	0·01	0·10	0·01	170
180	0·13	0·02	0·13	0·02	0·13	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·11	0·02	0·11	0·02	0·11	0·02	180
190	0·15	0·02	0·15	0·02	0·15	0·02	0·14	0·02	0·14	0·02	0·14	0·02	0·14	0·02	0·14	0·02	0·13	0·02	0·13	0·02	0·13	0·02	190
200	0·17	0·03	0·17	0·03	0·17	0·03	0·16	0·03	0·16	0·03	0·16	0·03	0·16	0·03	0·16	0·03	0·15	0·03	0·15	0·03	0·15	0·03	**200**
210	0·20	0·03	0·20	0·03	0·20	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·18	0·03	0·18	0·03	0·18	0·03	210
220	0·23	0·03	0·23	0·03	0·23	0·03	0·22	0·03	0·22	0·03	0·22	0·03	0·22	0·03	0·22	0·03	0·21	0·03	0·21	0·03	0·21	0·03	220
230	0·26	0·04	0·26	0·04	0·26	0·03	0·25	0·04	0·25	0·04	0·25	0·04	0·25	0·03	0·25	0·03	0·24	0·04	0·24	0·03	0·24	0·03	230
240	0·30	0·04	0·30	0·04	0·29	0·04	0·29	0·04	0·29	0·03	0·29	0·03	0·28	0·04	0·28	0·03	0·28	0·03	0·27	0·03	0·27	0·03	240
250	0·34	0·04	0·34	0·04	0·33	0·04	0·33	0·04	0·32	0·04	0·32	0·04	0·32	0·04	0·31	0·04	0·31	0·04	0·30	0·04	0·30	0·04	250
260	0·38	0·04	0·38	0·04	0·37	0·04	0·37	0·04	0·36	0·04	0·36	0·04	0·36	0·04	0·35	0·04	0·35	0·04	0·34	0·04	0·34	0·04	260
270	0·42	0·05	0·42	0·05	0·41	0·05	0·41	0·05	0·40	0·05	0·40	0·05	0·40	0·04	0·39	0·05	0·39	0·04	0·38	0·05	0·38	0·04	270
280	0·47	0·05	0·47	0·05	0·46	0·05	0·46	0·05	0·45	0·05	0·45	0·05	0·44	0·05	0·44	0·05	0·43	0·05	0·43	0·05	0·42	0·05	280
290	0·52	0·06	0·52	0·05	0·51	0·06	0·51	0·05	0·50	0·06	0·50	0·05	0·49	0·05	0·49	0·05	0·48	0·05	0·48	0·05	0·47	0·05	290
300	0·58	0·06	0·57	0·06	0·57	0·06	0·56	0·06	0·56	0·06	0·55	0·06	0·54	0·06	0·54	0·06	0·53	0·06	0·53	0·06	0·52	0·06	**300**
310	0·64	0·07	0·63	0·06	0·63	0·06	0·62	0·06	0·62	0·06	0·61	0·06	0·60	0·06	0·60	0·05	0·59	0·06	0·59	0·05	0·58	0·05	310
320	0·71	0·06	0·69	0·07	0·69	0·06	0·68	0·07	0·68	0·06	0·67	0·06	0·66	0·06	0·65	0·06	0·65	0·06	0·64	0·06	0·63	0·06	320
330	0·77	0·07	0·76	0·07	0·75	0·07	0·75	0·07	0·74	0·07	0·73	0·07	0·72	0·07	0·71	0·07	0·71	0·06	0·70	0·06	0·69	0·06	330
340	0·84	0·08	0·83	0·08	0·82	0·08	0·82	0·07	0·81	0·07	0·80	0·07	0·79	0·07	0·78	0·07	0·77	0·07	0·76	0·07	0·75	0·07	340
350	0·92	0·08	0·91	0·08	0·90	0·08	0·89	0·08	0·88	0·08	0·87	0·08	0·86	0·08	0·85	0·08	0·84	0·07	0·83	0·08	0·82	0·08	350
360	1·00	0·09	0·99	0·09	0·98	0·08	0·97	0·08	0·96	0·08	0·95	0·08	0·94	0·08	0·93	0·08	0·91	0·08	0·91	0·07	0·90	0·07	360
370	1·09	0·09	1·08	0·09	1·06	0·09	1·05	0·09	1·04	0·09	1·03	0·09	1·02	0·08	1·01	0·08	0·99	0·09	0·98	0·08	0·97	0·08	370
380	1·18	0·10	1·17	0·09	1·15	0·10	1·14	0·09	1·13	0·09	1·12	0·09	1·10	0·09	1·09	0·09	1·08	0·09	1·06	0·09	1·05	0·09	380
390	1·28	0·10	1·26	0·10	1·25	0·10	1·23	0·10	1·22	0·10	1·21	0·09	1·19	0·09	1·18	0·09	1·17	0·09	1·15	0·10	1·14	0·09	390
400	1·38	0·10	1·36	0·10	1·35	0·10	1·33	0·10	1·32	0·10	1·30	0·10	1·28	0·10	1·27	0·10	1·26	0·09	1·25	0·09	1·23	0·09	**400**
410	1·48	0·11	1·46	0·11	1·45	0·11	1·43	0·11	1·42	0·10	1·40	0·11	1·38	0·11	1·37	0·10	1·35	0·10	1·34	0·10	1·32	0·10	410
420	1·59	0·12	1·57	0·12	1·56	0·11	1·54	0·11	1·52	0·11	1·51	0·11	1·49	0·11	1·47	0·11	1·45	0·11	1·44	0·10	1·42	0·10	420
430	1·71	0·12	1·69	0·12	1·67	0·12	1·65	0·12	1·63	0·12	1·62	0·11	1·60	0·11	1·58	0·11	1·56	0·11	1·54	0·11	1·52	0·11	430
440	1·83	0·12	1·81	0·12	1·79	0·12	1·77	0·12	1·75	0·12	1·73	0·12	1·71	0·12	1·69	0·12	1·67	0·11	1·65	0·11	1·63	0·11	440
450	1·95	0·13	1·93	0·13	1·91	0·13	1·89	0·12	1·87	0·12	1·85	0·12	1·83	0·12	1·81	0·12	1·78	0·12	1·76	0·12	1·74	0·12	450
460	2·08	0·14	2·06	0·14	2·04	0·13	2·01	0·14	1·99	0·13	1·97	0·13	1·95	0·13	1·93	0·12	1·90	0·13	1·88	0·12	1·86	0·12	460
470	2·22	0·15	2·20	0·14	2·17	0·15	2·15	0·14	2·12	0·14	2·10	0·14	2·08	0·13	2·05	0·14	2·03	0·13	2·00	0·14	1·98	0·13	470
480	2·37	0·15	2·34	0·15	2·32	0·15	2·29	0·15	2·26	0·15	2·24	0·15	2·21	0·15	2·19	0·14	2·16	0·14	2·14	0·14	2·11	0·14	480
490	2·52	0·15	2·49	0·15	2·47	0·15	2·44	0·15	2·41	0·15	2·39	0·15	2·36	0·15	2·33	0·15	2·30	0·15	2·28	0·15	2·25	0·15	490
500	2·67		2·64		2·62		2·59		2·56		2·54		2·51		2·48		2·45		2·43		2·40		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 3600—3800.

	3600	Diff.	3620	Diff.	3640	Diff.	3660	Diff.	3680	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
50	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
60	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
80	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
90	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
100	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
110	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00
120	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
130	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01
140	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02
150	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01
160	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02
170	0·10	0·01	0·10	0·01	0·10	0·01	0·10	0·01	0·10	0·01
180	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02
190	0·13	0·02	0·13	0·02	0·13	0·02	0·13	0·02	0·13	0·02
200	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·02	0·15	0·02
210	0·18	0·03	0·18	0·03	0·18	0·02	0·17	0·03	0·17	0·03
220	0·21	0·03	0·21	0·03	0·20	0·03	0·20	0·03	0·20	0·03
230	0·24	0·03	0·24	0·03	0·23	0·03	0·23	0·03	0·23	0·03
240	0·27	0·03	0·27	0·03	0·26	0·03	0·26	0·03	0·26	0·03
250	0·30	0·04	0·30	0·04	0·29	0·04	0·29	0·04	0·29	0·03
260	0·34	0·04	0·34	0·04	0·33	0·04	0·33	0·04	0·32	0·04
270	0·38	0·04	0·38	0·04	0·37	0·04	0·37	0·04	0·36	0·04
280	0·42	0·05	0·42	0·05	0·41	0·05	0·41	0·05	0·40	0·05
290	0·47	0·05	0·47	0·05	0·46	0·05	0·46	0·05	0·45	0·05
300	0·52	0·06	0·52	0·05	0·51	0·06	0·51	0·05	0·50	0·05
310	0·58	0·05	0·57	0·05	0·57	0·05	0·56	0·05	0·55	0·06
320	0·63	0·06	0·62	0·06	0·62	0·06	0·61	0·06	0·61	0·05
330	0·69	0·06	0·68	0·06	0·68	0·06	0·67	0·06	0·66	0·06
340	0·75	0·07	0·74	0·07	0·74	0·06	0·73	0·07	0·72	0·07
350	0·82	0·08	0·81	0·08	0·80	0·07	0·80	0·07	0·79	0·07
360	0·90	0·07	0·89	0·07	0·87	0·08	0·87	0·07	0·86	0·07
370	0·97	0·08	0·96	0·08	0·95	0·08	0·94	0·08	0·93	0·08
380	1·05	0·09	1·04	0·09	1·03	0·09	1·02	0·08	1·01	0·08
390	1·14	0·09	1·13	0·09	1·12	0·08	1·10	0·09	1·09	0·09
400	1·23	0·09	1·22	0·09	1·20	0·09	1·19	0·09	1·18	0·09
410	1·32	0·10	1·31	0·10	1·29	0·10	1·28	0·10	1·27	0·09
420	1·42	0·10	1·41	0·10	1·39	0·10	1·38	0·10	1·36	0·10
430	1·52	0·11	1·51	0·10	1·49	0·11	1·48	0·10	1·46	0·11
440	1·63	0·11	1·61	0·11	1·60	0·11	1·58	0·11	1·57	0·11
450	1·74	0·12	1·72	0·12	1·71	0·11	1·69	0·11	1·68	0·11
460	1·86	0·12	1·84	0·12	1·82	0·12	1·80	0·12	1·79	0·12
470	1·98	0·13	1·96	0·13	1·94	0·13	1·92	0·13	1·91	0·12
480	2·11	0·14	2·09	0·14	2·07	0·13	2·05	0·13	2·03	0·13
490	2·25	0·15	2·23	0·14	2·20	0·15	2·18	0·14	2·16	0·14
500	2·40		2·37		2·35		2·32		2·30	

3700	Diff.	3720	Diff.	3740	Diff.	3760	Diff.	3780	Diff.	3800	Diff.	
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	50
0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	60
0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	80
0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	90
0·02	0·01	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	**100**
0·03	0·00	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	110
0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	120
0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	130
0·05	0·02	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	140
0·07	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	150
0·08	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	160
0·10	0·01	0·09	0·01	0·09	0·01	0·09	0·01	0·09	0·01	0·09	0·01	170
0·11	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	180
0·13	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	190
0·15	0·02	0·14	0·03	0·14	0·03	0·14	0·02	0·14	0·02	0·14	0·02	**200**
0·17	0·03	0·17	0·02	0·17	0·02	0·16	0·03	0·16	0·03	0·16	0·03	210
0·20	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·19	0·02	0·19	0·02	220
0·23	0·03	0·22	0·03	0·22	0·03	0·22	0·03	0·21	0·03	0·21	0·03	230
0·26	0·03	0·25	0·03	0·25	0·03	0·25	0·03	0·24	0·03	0·24	0·03	240
0·29	0·03	0·28	0·04	0·28	0·03	0·28	0·03	0·27	0·03	0·27	0·03	250
0·32	0·04	0·32	0·04	0·31	0·04	0·31	0·04	0·30	0·04	0·30	0·04	260
0·36	0·04	0·36	0·04	0·35	0·04	0·35	0·04	0·34	0·04	0·34	0·04	270
0·40	0·05	0·40	0·04	0·39	0·05	0·39	0·04	9·38	0·05	0·38	0·04	280
0·45	0·05	0·44	0·05	0·44	0·05	0·43	0·05	0·43	0·05	0·42	0·05	290
0·50	0·05	0·49	0·05	0·49	0·05	0·48	0·05	0·48	0·05	0·47	0·05	**300**
0·55	0·05	0·54	0·05	0·54	0·05	0·53	0·05	0·53	0·05	0·52	0·05	310
0·60	0·06	0·59	0·06	0·59	0·05	0·58	0·05	0·58	0·05	0·57	0·05	320
0·66	0·06	0·65	0·06	0·64	0·06	0·63	0·06	0·63	0·06	0·62	0·06	330
0·72	0·06	0·71	0·06	0·70	0·06	0·69	0·07	0·69	0·06	0·68	0·06	340
0·78	0·07	0·77	0·07	0·76	0·07	0·76	0·06	0·75	0·06	0·74	0·06	350
0·85	0·07	0·84	0·07	0·83	0·07	0·82	0·07	0·81	0·07	0·80	0·07	360
0·92	0·08	0·91	0·08	0·90	0·08	0·89	0·08	0·88	0·08	0·87	0·08	370
1·00	0·08	0·99	0·08	0·98	0·08	0·97	0·08	0·96	0·07	0·95	0·07	380
1·08	0·09	1·07	0·08	1·06	0·08	1·05	0·08	1·03	0·08	1·02	0·08	390
1·17	0·09	1·15	0·09	1·14	0·09	1·13	0·08	1·11	0·09	1·10	0·08	**400**
1·26	0·09	1·24	0·09	1·23	0·09	1·21	0·09	1·20	0·09	1·18	0·09	410
1·35	0·10	1·33	0·10	1·32	0·10	1·30	0·10	1·29	0·10	1·27	0·10	420
1·45	0·10	1·43	0·10	1·42	0·10	1·40	0·10	1·39	0·10	1·37	0·10	430
1·55	0·11	1·53	0·11	1·52	0·10	1·50	0·11	1·49	0·10	1·47	0·10	440
1·66	0·11	1·64	0·11	1·62	0·11	1·61	0·10	1·59	0·10	1·57	0·10	450
1·77	0·12	1·75	0·11	1·73	0·11	1·71	0·11	1·69	0·11	1·67	0·11	460
1·89	0·12	1·86	0·12	1·84	0·12	1·82	0·12	1·80	0·12	1·78	0·12	470
2·01	0·13	1·98	0·13	1·96	0·13	1·94	0·12	1·92	0·12	1·90	0·12	480
2·14	0·13	2·11	0·13	2·09	0·13	2·06	0·13	2·04	0·13	2·02	0·12	490
2·27		2·24		2·22		2·19		2·17		2·14		**500**

Reduction to the tangent φ. **Reduction auf die Tangente φ.** *Réduction à la tangente φ.*

Dist. 3800—4000.

	3800	Diff.	3820	Diff.	3840	Diff.	3860	Diff.	3880	Diff.	3900	Diff.	3920	Diff.	3940	Diff.	3960	Diff.	3980	Diff.	4000	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**10**
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**20**
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**30**
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**40**
50	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**50**
60	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	**60**
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	**70**
80	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	**80**
90	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	**90**
100	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	**100**
110	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**110**
120	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00	0·03	0·00	**120**
130	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	**130**
140	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	**140**
150	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	**150**
160	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	**160**
170	0·09	0·01	0·09	0·01	0·09	0·01	0·09	0·01	0·09	0·01	0·09	0·01	0·08	0·01	0·08	0·01	0·08	0·01	0·08	0·01	0·08	0·01	**170**
180	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	**180**
190	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	**190**
200	0·14	0·02	0·14	0·02	0·14	0·02	0·14	0·02	0·14	0·02	0·14	0·02	0·13	0·02	0·13	0·02	0·13	0·02	0·13	0·02	0·13	0·02	**200**
210	0·16	0·03	0·16	0·03	0·16	0·03	0·16	0·02	0·16	0·02	0·16	0·02	0·15	0·03	0·15	0·03	0·15	0·02	0·15	0·02	0·15	0·02	**210**
220	0·19	0·02	0·19	0·02	0·19	0·02	0·18	0·02	0·18	0·02	0·18	0·02	0·18	0·02	0·18	0·02	0·17	0·02	0·17	0·02	0·17	0·02	**220**
230	0·21	0·03	0·21	0·03	0·21	0·03	0·20	0·03	0·20	0·03	0·20	0·03	0·20	0·03	0·20	0·03	0·19	0·03	0·19	0·03	0·19	0·03	**230**
240	0·24	0·03	0·24	0·03	0·24	0·02	0·23	0·03	0·23	0·03	0·23	0·03	0·23	0·02	0·23	0·02	0·22	0·03	0·22	0·02	0·22	0·02	**240**
250	0·27	0·03	0·27	0·03	0·26	0·03	0·26	0·03	0·26	0·03	0·26	0·03	0·25	0·03	0·25	0·03	0·25	0·03	0·24	0·03	0·24	0·03	**250**
260	0·30	0·04	0·30	0·04	0·29	0·04	0·29	0·04	0·29	0·04	0·29	0·04	0·28	0·04	0·28	0·04	0·28	0·04	0·27	0·04	0·27	0·04	**260**
270	0·34	0·04	0·34	0·04	0·33	0·04	0·33	0·04	0·33	0·03	0·33	0·03	0·32	0·04	0·32	0·03	0·32	0·03	0·31	0·03	0·31	0·03	**270**
280	0·38	0·04	0·38	0·04	0·37	0·04	0·37	0·04	0·36	0·04	0·36	0·04	0·36	0·04	0·35	0·04	0·35	0·04	0·34	0·04	0·34	0·04	**280**
290	0·42	0·05	0·42	0·05	0·41	0·05	0·41	0·05	0·40	0·05	0·40	0·05	0·40	0·04	0·39	0·05	0·39	0·04	0·38	0·05	0·38	0·04	**290**
300	0·47	0·05	0·47	0·04	0·46	0·05	0·46	0·04	0·45	0·05	0·45	0·04	0·44	0·05	0·44	0·04	0·43	0·05	0·43	0·04	0·42	0·05	**300**
310	0·52	0·05	0·51	0·05	0·51	0·05	0·50	0·05	0·50	0·05	0·49	0·05	0·49	0·04	0·48	0·05	0·48	0·04	0·47	0·05	0·47	0·04	**310**
320	0·57	0·05	0·56	0·05	0·56	0·05	0·55	0·05	0·55	0·05	0·54	0·05	0·53	0·05	0·53	0·05	0·52	0·05	0·52	0·05	0·51	0·05	**320**
330	0·62	0·06	0·61	0·06	0·61	0·06	0·60	0·06	0·60	0·05	0·59	0·06	0·58	0·06	0·58	0·05	0·57	0·05	0·57	0·05	0·56	0·05	**330**
340	0·68	0·06	0·67	0·06	0·67	0·06	0·66	0·06	0·65	0·06	0·65	0·06	0·64	0·06	0·63	0·06	0·62	0·06	0·62	0·06	0·61	0·06	**340**
350	0·74	0·06	0·73	0·06	0·73	0·06	0·72	0·06	0·71	0·06	0·71	0·06	0·70	0·06	0·69	0·06	0·68	0·06	0·68	0·06	0·67	0·06	**350**
360	0·80	0·07	0·79	0·07	0·79	0·06	0·78	0·07	0·77	0·07	0·77	0·06	0·76	0·06	0·75	0·06	0·74	0·07	0·74	0·06	0·73	0·06	**360**
370	0·87	0·08	0·86	0·08	0·85	0·07	0·85	0·07	0·84	0·07	0·83	0·07	0·82	0·07	0·81	0·07	0·81	0·06	0·80	0·06	0·79	0·06	**370**
380	0·95	0·07	0·94	0·07	0·92	0·08	0·92	0·07	0·91	0·07	0·90	0·07	0·89	0·07	0·88	0·07	0·87	0·07	0·86	0·07	0·85	0·07	**380**
390	1·02	0·08	1·01	0·08	1·00	0·08	0·99	0·08	0·98	0·08	0·97	0·08	0·96	0·08	0·95	0·08	0·94	0·08	0·93	0·08	0·92	0·08	**390**
400	1·10	0·08	1·09	0·08	1·08	0·08	1·07	0·08	1·06	0·08	1·05	0·08	1·04	0·08	1·03	0·08	1·02	0·07	1·01	0·07	1·00	0·07	**400**
410	1·18	0·09	1·17	0·09	1·16	0·09	1·15	0·09	1·14	0·08	1·13	0·08	1·12	0·08	1·11	0·08	1·09	0·08	1·08	0·08	1·07	0·08	**410**
420	1·27	0·10	1·26	0·09	1·25	0·09	1·24	0·09	1·22	0·09	1·21	0·09	1·20	0·09	1·19	0·08	1·17	0·09	1·16	0·08	1·15	0·08	**420**
430	1·37	0·10	1·35	0·10	1·34	0·10	1·33	0·09	1·31	0·10	1·30	0·09	1·29	0·09	1·27	0·09	1·26	0·09	1·24	0·09	1·23	0·09	**430**
440	1·47	0·10	1·45	0·10	1·44	0·10	1·42	0·10	1·41	0·10	1·39	0·10	1·38	0·09	1·36	0·10	1·35	0·09	1·33	0·10	1·32	0·09	**440**
450	1·57	0·10	1·55	0·10	1·54	0·10	1·52	0·10	1·51	0·10	1·49	0·10	1·47	0·10	1·46	0·10	1·44	0·10	1·43	0·10	1·41	0·10	**450**
460	1·67	0·11	1·65	0·11	1·64	0·11	1·62	0·11	1·61	0·10	1·59	0·11	1·57	0·11	1·56	0·10	1·54	0·10	1·53	0·10	1·51	0·10	**460**
470	1·78	0·12	1·76	0·12	1·75	0·11	1·73	0·11	1·71	0·11	1·70	0·11	1·68	0·11	1·66	0·11	1·64	0·11	1·63	0·10	1·61	0·10	**470**
480	1·90	0·12	1·88	0·12	1·86	0·12	1·84	0·12	1·82	0·12	1·81	0·11	1·79	0·11	1·77	0·11	1·75	0·11	1·73	0·11	1·71	0·11	**480**
490	2·02	0·12	2·00	0·12	1·98	0·12	1·96	0·12	1·94	0·12	1·92	0·12	1·90	0·12	1·88	0·12	1·86	0·12	1·84	0·12	1·82	0·12	**490**
500	2·14		2·12		2·10		2·08		2·06		2·04		2·02		2·00		1·98		1·96		1·94		**500**

Reduction auf den Sinus $\frac{\varphi}{2}$.

Reduction to the sinus $\frac{\varphi}{2}$.

Réduction au sinus $\frac{\varphi}{2}$.

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 1000—1100.

	1000	Diff.	1010	Diff.	1020	Diff.	1030	Diff.	1040	Diff.	1050	Diff.	1060	Diff.	1070	Diff.	1080	Diff.	1090	Diff.	1100	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	20
30	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	30
40	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	40
50	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·03	50
60	0·07	0·05	0·07	0·05	0·07	0·05	0·07	0·04	0·07	0·04	0·07	0·04	0·07	0·04	0·07	0·04	0·07	0·04	0·07	0·03	0·07	0·03	60
70	0·12	0·06	0·12	0·06	0·12	0·05	0·11	0·06	0·11	0·06	0·11	0·06	0·11	0·05	0·11	0·05	0·11	0·05	0·10	0·05	0·10	0·05	70
80	0·18	0·07	0·18	0·07	0·17	0·07	0·17	0·07	0·17	0·06	0·17	0·06	0·16	0·07	0·16	0·06	0·16	0·06	0·15	0·06	0·15	0·06	80
90	0·25	0·09	0·25	0·08	0·24	0·09	0·24	0·08	0·23	0·09	0·23	0·08	0·23	0·08	0·22	0·08	0·22	0·07	0·21	0·08	0·21	0·07	90
100	0·34	0·11	0·33	0·11	0·33	0·11	0·32	0·11	0·32	0·10	0·31	0·11	0·31	0·10	0·30	0·10	0·29	0·10	0·29	0·10	0·28	0·10	**100**
110	0·45	0·14	0·44	0·14	0·44	0·13	0·43	0·13	0·42	0·13	0·42	0·12	0·41	0·12	0·40	0·12	0·39	0·12	0·39	0·11	0·38	0·11	110
120	0·59	0·16	0·58	0·16	0·57	0·15	0·56	0·15	0·55	0·15	0·54	0·14	0·53	0·14	0·52	0·14	0·51	0·14	0·50	0·13	0·49	0·13	120
130	0·75	0·18	0·74	0·17	0·72	0·18	0·71	0·17	0·70	0·17	0·68	0·17	0·67	0·16	0·66	0·16	0·65	0·15	0·63	0·16	0·62	0·15	130
140	0·93	0·21	0·91	0·21	0·90	0·20	0·88	0·20	0·87	0·19	0·85	0·20	0·83	0·19	0·82	0·19	0·80	0·19	0·79	0·18	0·77	0·18	140
150	1·14	0·24	1·12	0·24	1·10	0·23	1·08	0·23	1·06	0·23	1·05	0·22	1·02	0·22	1·01	0·21	0·99	0·21	0·97	0·20	0·95	0·20	150
160	1·38	0·28	1·36	0·27	1·33	0·27	1·31	0·27	1·29	0·26	1·27	0·25	1·24	0·25	1·22	0·24	1·20	0·24	1·17	0·23	1·15	0·23	160
170	1·66	0·31	1·63	0·31	1·60	0·30	1·58	0·29	1·55	0·28	1·52	0·28	1·49	0·28	1·46	0·27	1·44	0·26	1·40	0·26	1·38	0·25	170
180	1·97	0·34	1·94	0·33	1·90	0·33	1·87	0·32	1·83	0·32	1·80	0·31	1·77	0·30	1·73	0·30	1·70	0·29	1·66	0·29	1·63	0·28	180
190	2·31	0·38	2·27	0·37	2·23	0·37	2·19	0·36	2·15	0·36	2·11	0·35	2·07	0·34	2·03	0·34	1·99	0·33	1·95	0·32	1·91	0·32	190
200	2·69	0·42	2·64	0·42	2·60	0·40	2·55	0·40	2·51	0·38	2·46	0·38	2·41	0·38	2·37	0·36	2·32	0·36	2·27	0·35	2·23	0·34	**200**
210	3·11	0·45	3·06	0·44	3·00	0·44	2·95	0·43	2·89	0·43	2·84	0·42	2·79	0·40	2·73	0·40	2·68	0·39	2·62	0·39	2·57	0·38	210
220	3·56	0·49	3·50	0·48	3·44	0·47	3·38	0·47	3·32	0·46	3·26	0·45	3·19	0·45	3·13	0·44	3·07	0·44	3·01	0·43	2·95	0·42	220
230	4·05	0·54	3·98	0·53	3·91	0·53	3·85	0·51	3·78	0·50	3·71	0·50	3·64	0·49	3·57	0·48	3·51	0·46	3·44	0·46	3·37	0·45	230
240	4·59	0·59	4·51	0·58	4·44	0·57	4·36	0·56	4·28	0·55	4·21	0·54	4·13	0·53	4·05	0·52	3·97	0·51	3·90	0·50	3·82	0·49	240
250	5·18	0·62	5·09	0·61	5·01	0·60	4·92	0·59	4·83	0·58	4·75	0·57	4·66	0·56	4·57	0·55	4·48	0·54	4·40	0·53	4·31	0·52	250
260	5·80	0·67	5·70	0·66	5·61	0·64	5·51	0·64	5·41	0·63	5·32	0·61	5·22	0·60	5·12	0·59	5·02	0·59	4·93	0·57	4·83	0·56	260
270	6·47	0·73	6·36	0·72	6·25	0·71	6·15	0·69	6·04	0·68	5·93	0·67	5·82	0·66	5·71	0·65	5·61	0·63	5·50	0·62	5·39	0·61	270
280	7·20	0·78	7·08	0·77	6·96	0·75	6·84	0·74	6·72	0·73	6·60	0·72	6·48	0·70	6·36	0·69	6·24	0·68	6·12	0·66	6·00	0·65	280
290	7·98	0·82	7·85	0·81	7·71	0·80	7·58	0·78	7·45	0·77	7·32	0·75	7·18	0·74	7·05	0·73	6·92	0·72	6·78	0·71	6·65	0·69	290
300	8·80	0·88	8·66	0·86	8·51	0·85	8·36	0·84	8·22	0·82	8·07	0·81	7·92	0·80	7·78	0·78	7·64	0·76	7·49	0·75	7·34	0·74	**300**
310	9·68	0·93	9·52	0·91	9·36	0·90	9·20	0·88	9·04	0·87	8·88	0·85	8·72	0·83	8·56	0·82	8·40	0·80	8·24	0·79	8·08	0·77	310
320	10·61	0·98	10·43	0·97	10·26	0·95	10·08	0·94	9·91	0·92	9·73	0·91	9·55	0·89	9·38	0·87	9·20	0·86	9·03	0·84	8·85	0·83	320
330	11·59	1·04	11·40	1·02	11·21	1·01	11·02	0·99	10·83	0·97	10·64	0·96	10·44	0·95	10·25	0·93	10·06	0·91	9·87	0·90	9·68	0·88	330
340	12·63	1·09	12·42	1·08	12·22	1·05	12·01	1·04	11·80	1·02	11·60	1·00	11·39	0·99	11·18	0·97	10·97	0·96	10·77	0·93	10·56	0·92	340
350	13·72	1·15	13·50	1·13	13·27	1·12	13·05	1·09	12·82	1·08	12·60	1·06	12·38	1·04	12·15	1·03	11·93	1·00	11·70	0·99	11·48	0·97	350
360	14·87	1·21	14·63	1·19	14·39	1·17	14·14	1·16	13·90	1·14	13·66	1·12	13·42	1·09	13·18	1·07	12·93	1·06	12·69	1·04	12·45	1·02	360
370	16·08	1·27	15·82	1·25	15·56	1·23	15·30	1·21	15·04	1·19	14·78	1·17	14·51	1·15	14·25	1·13	13·99	1·11	13·73	1·09	13·47	1·07	370
380	17·35	1·33	17·07	1·31	16·79	1·29	16·51	1·26	16·23	1·24	15·95	1·22	15·66	1·21	15·38	1·19	15·10	1·16	14·82	1·14	14·54	1·12	380
390	18·68	1·39	18·38	1·37	18·08	1·34	17·77	1·33	17·47	1·30	17·17	1·28	16·87	1·26	16·57	1·23	16·26	1·22	15·96	1·19	15·66	1·17	390
400	20·07	1·45	19·75	1·42	19·42	1·41	19·10	1·38	18·77	1·37	18·45	1·34	18·13	1·31	17·80	1·30	17·48	1·27	17·15	1·26	16·83	1·23	**400**
410	21·52	1·51	21·17	1·49	20·83	1·46	20·48	1·45	20·14	1·42	19·79	1·40	19·44	1·38	19·10	1·35	18·75	1·34	18·41	1·31	18·06	1·29	410
420	23·03	1·56	22·66	1·54	22·29	1·52	21·93	1·49	21·56	1·47	21·19	1·45	20·82	1·42	20·45	1·40	20·09	1·37	19·72	1·35	19·35	1·33	420
430	24·59	1·64	24·20	1·61	23·81	1·59	23·42	1·56	23·03	1·54	22·64	1·51	22·24	1·49	21·85	1·47	21·46	1·44	21·07	1·42	20·68	1·39	430
440	26·23	1·70	25·81	1·68	25·40	1·65	24·98	1·63	24·57	1·60	24·15	1·58	23·73	1·56	23·32	1·53	22·90	1·51	22·49	1·48	22·07	1·46	440
450	27·93	1·77	27·49	1·74	27·05	1·71	26·61	1·69	26·17	1·66	25·73	1·63	25·29	1·60	24·85	1·57	24·41	1·55	23·97	1·52	23·53	1·49	450
460	29·70	1·82	29·23	1·80	28·76	1·77	28·30	1·74	27·83	1·71	27·36	1·69	26·89	1·67	26·42	1·64	25·96	1·61	25·49	1·58	25·02	1·56	460
470	31·52	1·89	31·03	1·86	30·53	1·84	30·04	1·81	29·54	1·78	29·05	1·75	28·56	1·72	28·06	1·70	27·57	1·67	27·07	1·64	26·58	1·61	470
480	33·41	1·96	32·89	1·93	32·37	1·90	31·85	1·87	31·32	1·85	30·80	1·82	30·28	1·79	29·76	1·76	29·24	1·73	28·71	1·71	28·19	1·68	480
490	35·37	2·02	34·82	1·99	34·27	1·96	33·72	1·93	33·17	1·90	32·62	1·88	32·07	1·85	31·52	1·82	30·97	1·79	30·42	1·76	29·87	1·73	490
500	37·39		36·81		36·23		35·65		35·07		34·50		33·92		33·34		32·76		32·18		31·60		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus** $\frac{\varphi}{2}$. *Réduction au sinus* $\frac{\varphi}{2}$.

Dist. 1100—1200.

	1100	Diff.	1110	Diff.	1120	Diff.	1130	Diff.	1140	Diff.	1150	Diff.	1160	Diff.	1170	Diff.	1180	Diff.	1190	Diff.	1200	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	20
30	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	30
40	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	40
50	0·04	0·03	0·04	0·03	0·04	0·03	0·04	0·02	0·04	0·02	0·04	0·02	0·03	0·03	0·03	0·03	0·03	0·02	0·03	0·02	0·03	0·02	50
60	0·07	0·03	0·07	0·03	0·07	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·05	0·03	0·05	0·03	0·05	0·03	60
70	0·10	0·05	0·10	0·05	0·10	0·04	0·09	0·05	0·09	0·05	0·09	0·05	0·09	0·04	0·09	0·04	0·08	0·05	0·08	0·04	0·08	0·04	70
80	0·15	0·06	0·15	0·06	0·14	0·06	0·14	0·06	0·14	0·05	0·14	0·05	0·13	0·06	0·13	0·05	0·13	0·05	0·12	0·05	0·12	0·05	80
90	0·21	0·07	0·21	0·07	0·20	0·07	0·20	0·07	0·19	0·07	0·19	0·07	0·19	0·07	0·18	0·07	0·18	0·07	0·17	0·07	0·17	0·07	90
100	0·28	0·10	0·28	0·09	0·27	0·09	0·27	0·09	0·26	0·09	0·26	0·09	0·26	0·08	0·25	0·09	0·25	0·08	0·24	0·09	0·24	0·08	**100**
110	0·38	0·11	0·37	0·11	0·36	0·11	0·36	0·11	0·35	0·11	0·35	0·10	0·34	0·10	0·34	0·09	0·33	0·10	0·33	0·09	0·32	0·09	110
120	0·49	0·13	0·48	0·13	0·47	0·13	0·47	0·12	0·46	0·12	0·45	0·12	0·44	0·12	0·43	0·12	0·43	0·11	0·42	0·11	0·41	0·11	120
130	0·62	0·15	0·61	0·15	0·60	0·15	0·59	0·14	0·58	0·14	0·57	0·14	0·56	0·14	0·55	0·14	0·54	0·13	0·53	0·13	0·52	0·13	130
140	0·77	0·18	0·76	0·18	0·75	0·17	0·73	0·18	0·72	0·17	0·71	0·17	0·70	0·16	0·69	0·16	0·67	0·16	0·66	0·16	0·65	0·15	140
150	0·95	0·20	0·94	0·19	0·92	0·19	0·91	0·19	0·89	0·19	0·88	0·18	0·86	0·18	0·85	0·17	0·83	0·18	0·82	0·17	0·80	0·17	150
160	1·15	0·23	1·13	0·23	1·11	0·23	1·10	0·21	1·08	0·21	1·06	0·21	1·04	0·21	1·02	0·21	1·01	0·19	0·99	0·19	0·97	0·19	160
170	1·38	0·25	1·36	0·25	1·34	0·24	1·31	0·24	1·29	0·24	1·27	0·23	1·25	0·22	1·23	0·22	1·20	0·22	1·18	0·22	1·16	0·21	170
180	1·63	0·28	1·61	0·28	1·58	0·28	1·55	0·28	1·53	0·27	1·50	0·27	1·47	0·26	1·45	0·25	1·42	0·25	1·40	0·24	1·37	0·24	180
190	1·91	0·32	1·89	0·31	1·86	0·30	1·83	0·30	1·80	0·29	1·77	0·29	1·73	0·29	1·70	0·29	1·67	0·28	1·64	0·27	1·61	0·27	190
200	2·23	0·34	2·20	0·34	2·16	0·33	2·13	0·32	2·09	0·32	2·06	0·31	2·02	0·31	1·99	0·30	1·95	0·30	1·91	0·30	1·88	0·29	**200**
210	2·57	0·38	2·54	0·36	2·49	0·37	2·45	0·36	2·41	0·36	2·37	0·35	2·33	0·34	2·29	0·34	2·25	0·33	2·21	0·33	2·17	0·32	210
220	2·95	0·42	2·90	0·42	2·86	0·40	2·81	0·40	2·77	0·39	2·72	0·39	2·67	0·38	2·63	0·37	2·58	0·37	2·54	0·35	2·49	0·35	220
230	3·37	0·45	3·32	0·44	3·26	0·44	3·21	0·43	3·16	0·42	3·11	0·41	3·05	0·41	3·00	0·40	2·95	0·39	2·89	0·39	2·84	0·38	230
240	3·82	0·49	3·76	0·48	3·70	0·47	3·64	0·47	3·58	0·46	3·52	0·45	3·46	0·44	3·40	0·43	3·34	0·43	3·28	0·42	3·22	0·41	240
250	4·31	0·52	4·24	0·52	4·17	0·51	4·11	0·50	4·04	0·49	3·97	0·49	3·90	0·48	3·83	0·48	3·77	0·46	3·70	0·46	3·63	0·45	250
260	4·83	0·56	4·76	0·55	4·68	0·54	4·61	0·53	4·53	0·53	4·46	0·52	4·38	0·51	4·31	0·50	4·23	0·50	4·16	0·48	4·08	0·48	260
270	5·39	0·61	5·31	0·60	5·22	0·59	5·14	0·58	5·06	0·57	4·98	0·56	4·89	0·55	4·81	0·54	4·73	0·53	4·64	0·52	4·56	0·51	270
280	6·00	0·65	5·91	0·64	5·81	0·63	5·72	0·62	5·63	0·61	5·54	0·60	5·44	0·59	5·35	0·58	5·26	0·57	5·16	0·56	5·07	0·55	280
290	6·65	0·69	6·55	0·68	6·44	0·67	6·34	0·66	6·24	0·65	6·14	0·64	6·03	0·63	5·93	0·62	5·83	0·61	5·72	0·60	5·62	0·59	290
300	7·34	0·74	7·23	0·73	7·11	0·72	7·00	0·71	6·89	0·69	6·78	0·68	6·66	0·68	6·55	0·66	6·44	0·65	6·32	0·64	6·21	0·63	**300**
310	8·08	0·77	7·96	0·76	7·83	0·75	7·71	0·74	7·58	0·73	7·46	0·72	7·34	0·70	7·21	0·70	7·09	0·68	6·96	0·68	6·84	0·66	310
320	8·85	0·83	8·72	0·81	8·58	0·80	8·45	0·79	8·31	0·78	8·18	0·76	8·04	0·75	7·91	0·73	7·77	0·73	7·64	0·71	7·50	0·70	320
330	9·68	0·88	9·53	0·87	9·38	0·86	9·24	0·84	9·09	0·83	8·94	0·82	8·79	0·80	8·64	0·79	8·50	0·77	8·35	0·76	8·20	0·75	330
340	10·56	0·92	10·40	0·91	10·24	0·89	10·08	0·88	9·92	0·86	9·76	0·85	9·59	0·84	9·43	0·83	9·27	0·81	9·11	0·80	8·95	0·78	340
350	11·48	0·97	11·31	0·95	11·13	0·94	10·96	0·92	10·78	0·91	10·61	0·90	10·43	0·89	10·26	0·87	10·08	0·86	9·91	0·84	9·73	0·83	350
360	12·45	1·02	12·26	1·01	12·07	0·99	11·88	0·98	11·69	0·96	11·51	0·94	11·32	0·93	11·13	0·91	10·94	0·90	10·75	0·89	10·56	0·87	360
370	13·47	1·07	13·27	1·05	13·06	1·04	12·86	1·02	12·65	1·01	12·45	1·00	12·25	0·98	12·04	0·97	11·84	0·95	11·64	0·93	11·43	0·92	370
380	14·54	1·12	14·32	1·11	14·10	1·09	13·88	1·08	13·66	1·06	13·45	1·04	13·23	1·02	13·01	1·01	12·79	0·99	12·57	0·98	12·35	0·96	380
390	15·66	1·17	15·43	1·15	15·19	1·14	14·96	1·12	14·72	1·11	14·49	1·09	14·25	1·07	14·02	1·05	13·78	1·04	13·55	1·02	13·31	1·01	390
400	16·83	1·23	16·58	1·21	16·33	1·19	16·08	1·17	15·83	1·15	15·58	1·14	15·32	1·13	15·07	1·11	14·82	1·09	14·57	1·07	14·32	1·05	**400**
410	18·06	1·29	17·79	1·27	17·52	1·25	17·25	1·24	16·98	1·22	16·72	1·19	16·45	1·17	16·18	1·15	15·91	1·14	15·64	1·12	15·37	1·10	410
420	19·35	1·33	19·06	1·31	18·77	1·30	18·49	1·27	18·20	1·25	17·91	1·24	17·62	1·22	17·33	1·20	17·05	1·18	16·76	1·16	16·47	1·14	420
430	20·68	1·39	20·37	1·37	20·07	1·35	19·76	1·33	19·45	1·32	19·15	1·29	18·84	1·27	18·53	1·26	18·23	1·23	17·92	1·22	17·61	1·20	430
440	22·07	1·46	21·74	1·44	21·42	1·41	21·09	1·40	20·77	1·37	20·44	1·35	20·11	1·33	19·79	1·30	19·46	1·29	19·14	1·26	18·81	1·24	440
450	23·53	1·49	23·18	1·47	22·83	1·45	22·49	1·43	22·14	1·41	21·79	1·40	21·44	1·38	21·09	1·35	20·75	1·33	20·40	1·31	20·05	1·29	450
460	25·02	1·56	24·65	1·54	24·28	1·52	23·92	1·49	23·55	1·47	23·19	1·45	22·82	1·43	22·44	1·42	22·08	1·39	21·71	1·37	21·34	1·35	460
470	26·58	1·61	26·19	1·59	25·80	1·57	25·41	1·55	25·02	1·53	24·64	1·50	24·25	1·48	23·86	1·45	23·47	1·43	23·08	1·41	22·69	1·39	470
480	28·19	1·68	27·78	1·66	27·37	1·63	26·96	1·61	26·55	1·58	26·14	1·56	25·73	1·53	25·31	1·52	24·90	1·49	24·49	1·47	24·08	1·44	480
490	29·87	1·73	29·44	1·70	29·00	1·68	28·57	1·66	28·13	1·64	27·70	1·61	27·26	1·59	26·83	1·56	26·39	1·55	25·96	1·52	25·52	1·50	490
500	31·60		31·14		30·68		30·23		29·77		29·31		28·85		28·39		27·94		27·48		27·02		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 1200—1300.

	1200	Diff.	1210	Diff.	1220	Diff.	1230	Diff.	1240	Diff.	1250	Diff.	1260	Diff.	1270	Diff.	1280	Diff.	1290	Diff.	1300	Diff.	
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0**
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
20	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	20
30	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	30
40	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	40
50	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	50
60	0.05	0.03	0.05	0.03	0.05	0.03	0.05	0.03	0.05	0.03	0.05	0.03	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	60
70	0.08	0.04	0.08	0.04	0.08	0.04	0.08	0.03	0.08	0.03	0.08	0.03	0.07	0.04	0.07	0.04	0.07	0.03	0.07	0.03	0.07	0.03	70
80	0.12	0.05	0.12	0.05	0.12	0.05	0.11	0.05	0.11	0.05	0.11	0.05	0.11	0.05	0.11	0.04	0.10	0.05	0.10	0.04	0.10	0.04	80
90	0.17	0.07	0.17	0.07	0.17	0.06	0.16	0.07	0.16	0.06	0.16	0.06	0.16	0.06	0.15	0.06	0.15	0.06	0.14	0.06	0.14	0.06	90
100	0.24	0.08	0.24	0.08	0.23	0.08	0.23	0.08	0.22	0.08	0.22	0.08	0.22	0.07	0.21	0.08	0.21	0.07	0.20	0.08	0.20	0.07	**100**
110	0.32	0.09	0.32	0.09	0.31	0.09	0.31	0.09	0.30	0.09	0.30	0.08	0.29	0.08	0.29	0.08	0.28	0.08	0.28	0.08	0.27	0.08	110
120	0.41	0.11	0.41	0.10	0.40	0.10	0.40	0.10	0.39	0.10	0.38	0.10	0.37	0.10	0.37	0.10	0.36	0.10	0.36	0.09	0.35	0.09	120
130	0.52	0.13	0.51	0.13	0.50	0.13	0.50	0.12	0.49	0.12	0.48	0.12	0.47	0.12	0.47	0.11	0.46	0.11	0.45	0.11	0.44	0.11	130
140	0.65	0.15	0.64	0.15	0.63	0.15	0.62	0.14	0.61	0.14	0.60	0.14	0.59	0.14	0.58	0.14	0.57	0.13	0.56	0.13	0.55	0.13	140
150	0.80	0.17	0.79	0.17	0.78	0.16	0.76	0.17	0.75	0.16	0.74	0.16	0.73	0.16	0.72	0.15	0.70	0.15	0.69	0.15	0.68	0.15	150
160	0.97	0.19	0.96	0.18	0.94	0.19	0.93	0.18	0.91	0.18	0.90	0.18	0.89	0.17	0.87	0.17	0.85	0.17	0.84	0.17	0.83	0.16	160
170	1.16	0.21	1.14	0.21	1.13	0.20	1.11	0.20	1.09	0.20	1.08	0.20	1.06	0.19	1.04	0.19	1.02	0.19	1.01	0.18	0.99	0.18	170
180	1.37	0.24	1.35	0.24	1.33	0.23	1.31	0.23	1.29	0.23	1.28	0.22	1.25	0.22	1.23	0.22	1.21	0.22	1.19	0.21	1.17	0.21	180
190	1.61	0.27	1.59	0.26	1.56	0.26	1.54	0.25	1.52	0.25	1.50	0.24	1.47	0.24	1.45	0.23	1.43	0.23	1.40	0.23	1.38	0.22	190
200	1.88	0.29	1.85	0.29	1.82	0.29	1.79	0.28	1.77	0.28	1.74	0.27	1.71	0.27	1.68	0.27	1.66	0.25	1.63	0.26	1.60	0.25	**200**
210	2.17	0.32	2.14	0.31	2.11	0.31	2.07	0.31	2.05	0.30	2.01	0.30	1.98	0.29	1.95	0.29	1.91	0.29	1.89	0.28	1.85	0.28	210
220	2.49	0.35	2.45	0.35	2.42	0.34	2.38	0.34	2.35	0.33	2.31	0.33	2.27	0.32	2.24	0.31	2.20	0.31	2.17	0.30	2.13	0.30	220
230	2.84	0.38	2.80	0.37	2.76	0.37	2.72	0.36	2.68	0.35	2.64	0.35	2.59	0.35	2.55	0.34	2.51	0.33	2.47	0.33	2.43	0.32	230
240	3.22	0.41	3.17	0.41	3.13	0.40	3.08	0.39	3.03	0.39	2.99	0.38	2.94	0.38	2.89	0.38	2.84	0.37	2.80	0.36	2.75	0.36	240
250	3.63	0.45	3.58	0.44	3.53	0.43	3.47	0.43	3.42	0.42	3.37	0.42	3.32	0.41	3.27	0.40	3.21	0.40	3.16	0.39	3.11	0.38	250
260	4.08	0.48	4.02	0.47	3.96	0.47	3.90	0.46	3.84	0.46	3.79	0.44	3.73	0.43	3.67	0.43	3.61	0.42	3.55	0.42	3.49	0.41	260
270	4.56	0.51	4.49	0.51	4.43	0.50	4.36	0.49	4.30	0.48	4.23	0.48	4.16	0.47	4.10	0.46	4.03	0.46	3.97	0.45	3.90	0.44	270
280	5.07	0.55	5.00	0.54	4.93	0.53	4.85	0.53	4.78	0.52	4.71	0.51	4.63	0.51	4.56	0.50	4.49	0.49	4.42	0.48	4.34	0.48	280
290	5.62	0.59	5.54	0.58	5.46	0.57	5.38	0.56	5.30	0.55	5.22	0.55	5.14	0.54	5.06	0.53	4.98	0.52	4.90	0.51	4.82	0.50	290
300	6.21	0.63	6.12	0.62	6.03	0.61	5.94	0.60	5.85	0.59	5.77	0.58	5.68	0.57	5.59	0.56	5.50	0.56	5.41	0.55	5.32	0.54	**300**
310	6.84	0.66	6.74	0.65	6.64	0.65	6.54	0.64	6.44	0.63	6.35	0.62	6.25	0.61	6.15	0.60	6.06	0.58	5.96	0.58	5.86	0.57	310
320	7.50	0.70	7.39	0.69	7.29	0.68	7.18	0.67	7.07	0.67	6.97	0.65	6.86	0.64	6.75	0.64	6.64	0.63	6.54	0.62	6.43	0.61	320
330	8.20	0.75	8.08	0.74	7.97	0.73	7.85	0.72	7.74	0.70	7.62	0.69	7.50	0.68	7.39	0.67	7.27	0.66	7.16	0.65	7.04	0.64	330
340	8.95	0.78	8.82	0.77	8.70	0.76	8.57	0.75	8.44	0.74	8.31	0.73	8.18	0.72	8.06	0.71	7.93	0.70	7.81	0.68	7.68	0.67	340
350	9.73	0.83	9.59	0.82	9.46	0.80	9.32	0.79	9.18	0.78	9.04	0.78	8.90	0.77	8.77	0.75	8.63	0.74	8.49	0.73	8.35	0.72	350
360	10.56	0.87	10.41	0.86	10.26	0.85	10.11	0.84	9.96	0.83	9.82	0.81	9.67	0.80	9.52	0.78	9.37	0.77	9.22	0.76	9.07	0.75	360
370	11.43	0.92	11.27	0.91	11.11	0.89	10.95	0.88	10.79	0.86	10.63	0.85	10.47	0.84	10.30	0.83	10.14	0.82	9.98	0.80	9.82	0.79	370
380	12.35	0.96	12.18	0.95	12.00	0.94	11.83	0.92	11.65	0.91	11.48	0.90	11.31	0.88	11.13	0.87	10.96	0.85	10.78	0.85	10.61	0.83	380
390	13.31	1.01	13.13	0.99	12.94	0.98	12.75	0.97	12.56	0.96	12.38	0.94	12.19	0.92	12.00	0.91	11.81	0.90	11.63	0.88	11.44	0.87	390
400	14.32	1.05	14.12	1.04	13.92	1.02	13.72	1.01	13.52	0.99	13.32	0.98	13.11	0.97	12.91	0.96	12.71	0.94	12.51	0.93	12.31	0.91	**400**
410	15.37	1.10	15.16	1.08	14.94	1.07	14.73	1.05	14.51	1.04	14.30	1.02	14.08	1.01	13.87	0.99	13.65	0.98	13.44	0.96	13.22	0.95	410
420	16.47	1.14	16.24	1.13	16.01	1.11	15.78	1.10	15.55	1.08	15.32	1.07	15.09	1.06	14.86	1.04	14.63	1.03	14.40	1.01	14.17	1.00	420
430	17.61	1.20	17.37	1.18	17.12	1.17	16.88	1.15	16.63	1.13	16.39	1.12	16.15	1.09	15.90	1.08	15.66	1.06	15.41	1.05	15.17	1.03	430
440	18.81	1.24	18.55	1.22	18.29	1.21	18.03	1.19	17.76	1.18	17.51	1.16	17.24	1.15	16.98	1.13	16.72	1.11	16.46	1.10	16.20	1.08	440
450	20.05	1.29	19.77	1.28	19.50	1.25	19.22	1.24	18.94	1.23	18.67	1.21	18.39	1.19	18.11	1.18	17.83	1.17	17.56	1.14	17.28	1.13	450
460	21.34	1.35	21.05	1.33	20.75	1.32	20.46	1.29	20.17	1.28	19.88	1.26	19.58	1.24	19.29	1.22	19.00	1.20	18.70	1.19	18.41	1.17	460
470	22.69	1.39	22.38	1.37	22.07	1.35	21.75	1.34	21.45	1.31	21.14	1.30	20.82	1.29	20.51	1.27	20.20	1.25	19.89	1.23	19.58	1.21	470
480	24.08	1.44	23.75	1.42	23.42	1.40	23.09	1.39	22.76	1.37	22.44	1.34	22.11	1.32	21.78	1.30	21.45	1.29	21.12	1.27	20.79	1.25	480
490	25.52	1.50	25.17	1.48	24.82	1.46	24.48	1.44	24.13	1.42	23.78	1.40	23.43	1.38	23.08	1.36	22.74	1.34	22.39	1.32	22.04	1.30	490
500	27.02		26.65		26.28		25.92		25.55		25.18		24.81		24.44		24.08		23.71		23.34		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 1300—1400.

	1300	Diff.	1310	Diff.	1320	Diff.	1330	Diff.	1340	Diff.	1350	Diff.	1360	Diff.	1370	Diff.	1380	Diff.	1390	Diff.	1400	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	20
30	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	30
40	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	40
50	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	50
60	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	60
70	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	70
80	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·09	0·04	0·09	0·04	0·09	0·04	0·09	0·04	0·09	0·04	80
90	0·14	0·06	0·14	0·06	0·14	0·06	0·14	0·05	0·14	0·05	0·14	0·05	0·13	0·06	0·13	0·05	0·13	0·05	0·13	0·05	0·13	0·05	90
100	0·20	0·07	0·20	0·07	0·20	0·06	0·19	0·07	0·19	0·06	0·19	0·06	0·19	0·06	0·18	0·06	0·18	0·06	0·18	0·06	0·18	0·05	**100**
110	0·27	0·08	0·27	0·08	0·26	0·08	0·26	0·08	0·25	0·08	0·25	0·07	0·25	0·07	0·24	0·08	0·24	0·07	0·24	0·07	0·23	0·07	110
120	0·35	0·09	0·35	0·09	0·34	0·09	0·34	0·08	0·33	0·09	0·32	0·09	0·32	0·08	0·32	0·08	0·31	0·08	0·31	0·08	0·30	0·08	120
130	0·44	0·11	0·44	0·11	0·43	0·11	0·42	0·11	0·42	0·10	0·41	0·11	0·40	0·11	0·40	0·10	0·39	0·10	0·39	0·10	0·38	0·10	130
140	0·55	0·13	0·55	0·12	0·54	0·12	0·53	0·12	0·52	0·12	0·52	0·12	0·51	0·12	0·50	0·12	0·49	0·12	0·49	0·11	0·48	0·11	140
150	0·68	0·15	0·67	0·15	0·66	0·14	0·65	0·14	0·64	0·14	0·64	0·13	0·63	0·13	0·62	0·13	0·61	0·12	0·60	0·12	0·59	0·12	150
160	0·83	0·16	0·82	0·16	0·80	0·16	0·79	0·16	0·78	0·15	0·77	0·15	0·76	0·15	0·75	0·14	0·73	0·14	0·72	0·14	0·71	0·14	160
170	0·99	0·18	0·98	0·17	0·96	0·18	0·95	0·17	0·93	0·17	0·92	0·17	0·91	0·16	0·89	0·17	0·87	0·17	0·86	0·17	0·85	0·16	170
180	1·17	0·21	1·15	0·21	1·14	0·20	1·12	0·20	1·10	0·20	1·09	0·20	1·07	0·19	1·06	0·19	1·04	0·19	1·03	0·18	1·01	0·18	180
190	1·38	0·22	1·36	0·22	1·34	0·22	1·32	0·22	1·30	0·22	1·29	0·21	1·26	0·21	1·25	0·20	1·23	0·20	1·21	0·20	1·19	0·20	190
200	1·60	0·25	1·58	0·25	1·56	0·24	1·54	0·24	1·52	0·23	1·50	0·23	1·47	0·24	1·45	0·23	1·43	0·22	1·41	0·22	1·39	0·22	**200**
210	1·85	0·28	1·83	0·27	1·80	0·27	1·78	0·26	1·75	0·26	1·73	0·26	1·71	0·25	1·68	0·25	1·65	0·25	1·63	0·24	1·61	0·23	210
220	2·13	0·30	2·10	0·30	2·07	0·29	2·04	0·29	2·01	0·29	1·99	0·28	1·96	0·27	1·93	0·27	1·90	0·27	1·87	0·26	1·84	0·26	220
230	2·43	0·32	2·40	0·32	2·36	0·32	2·33	0·31	2·30	0·30	2·27	0·30	2·23	0·30	2·20	0·29	2·17	0·28	2·13	0·29	2·10	0·28	230
240	2·75	0·36	2·72	0·35	2·68	0·35	2·64	0·34	2·60	0·34	2·57	0·33	2·53	0·33	2·49	0·32	2·45	0·32	2·42	0·31	2·38	0·31	240
250	3·11	0·38	3·07	0·37	3·03	0·37	2·98	0·37	2·94	0·36	2·90	0·36	2·86	0·35	2·81	0·35	2·77	0·34	2·73	0·34	2·69	0·33	250
260	3·49	0·41	3·44	0·41	3·40	0·40	3·35	0·39	3·30	0·39	3·26	0·38	3·21	0·38	3·16	0·38	3·11	0·37	3·07	0·36	3·02	0·36	260
270	3·90	0·44	3·85	0·43	3·80	0·43	3·74	0·43	3·69	0·42	3·64	0·41	3·59	0·40	3·54	0·39	3·48	0·40	3·43	0·39	3·38	0·38	270
280	4·34	0·48	4·28	0·47	4·23	0·46	4·17	0·45	4·11	0·45	4·05	0·44	3·99	0·43	3·93	0·43	3·88	0·42	3·82	0·42	3·76	0·41	280
290	4·82	0·50	4·75	0·50	4·69	0·49	4·62	0·48	4·56	0·47	4·49	0·47	4·42	0·47	4·36	0·46	4·30	0·45	4·24	0·44	4·17	0·43	290
300	5·32	0·54	5·25	0·53	5·18	0·52	5·10	0·52	5·03	0·51	4·96	0·51	4·89	0·50	4·82	0·49	4·75	0·48	4·68	0·47	4·60	0·47	**300**
310	5·86	0·57	5·78	0·56	5·70	0·56	5·62	0·55	5·54	0·55	5·47	0·53	5·39	0·53	5·31	0·52	5·23	0·51	5·15	0·51	5·07	0·50	310
320	6·43	0·61	6·34	0·61	6·26	0·59	6·17	0·59	6·09	0·57	6·00	0·57	5·92	0·56	5·83	0·55	5·74	0·55	5·66	0·53	5·57	0·53	320
330	7·04	0·64	6·95	0·63	6·85	0·63	6·76	0·61	6·66	0·61	6·57	0·60	6·48	0·59	6·38	0·59	6·29	0·57	6·19	0·57	6·10	0·56	330
340	7·68	0·67	7·58	0·66	7·48	0·66	7·37	0·65	7·27	0·64	7·17	0·63	7·07	0·62	6·97	0·61	6·86	0·61	6·76	0·60	6·66	0·59	340
350	8·35	0·72	8·24	0·71	8·14	0·69	8·02	0·69	7·91	0·68	7·80	0·67	7·69	0·66	7·58	0·65	7·47	0·64	7·36	0·63	7·25	0·62	350
360	9·07	0·75	8·95	0·74	8·83	0·73	8·71	0·72	8·59	0·71	8·47	0·70	8·35	0·69	8·23	0·68	8·11	0·67	7·99	0·66	7·87	0·65	360
370	9·82	0·79	9·69	0·78	9·56	0·77	9·43	0·76	9·30	0·75	9·17	0·74	9·04	0·73	8·91	0·72	8·78	0·71	8·65	0·70	8·52	0·69	370
380	10·61	0·83	10·47	0·82	10·33	0·81	10·19	0·80	10·05	0·79	9·91	0·78	9·77	0·76	9·63	0·75	9·49	0·75	9·35	0·73	9·21	0·72	380
390	11·44	0·87	11·29	0·87	11·14	0·85	10·99	0·84	10·84	0·83	10·69	0·82	10·53	0·81	10·38	0·80	10·24	0·78	10·08	0·77	9·93	0·76	390
400	12·31	0·91	12·16	0·89	11·99	0·88	11·83	0·87	11·67	0·86	11·51	0·85	11·34	0·84	11·18	0·83	11·02	0·82	10·85	0·81	10·69	0·80	**400**
410	13·22	0·95	13·05	0·94	12·87	0·93	12·70	0·92	12·53	0·90	12·36	0·89	12·18	0·88	12·01	0·87	11·84	0·86	11·66	0·85	11·49	0·83	410
420	14·17	1·00	13·99	0·98	13·80	0·97	13·62	0·96	13·43	0·95	13·25	0·93	13·06	0·92	12·88	0·90	12·70	0·89	12·51	0·88	12·32	0·87	420
430	15·17	1·03	14·97	1·02	14·77	1·01	14·58	0·99	14·38	0·98	14·18	0·97	13·98	0·96	13·78	0·95	13·59	0·93	13·39	0·92	13·19	0·91	430
440	16·20	1·08	15·99	1·07	15·78	1·05	15·57	1·04	15·36	1·02	15·15	1·01	14·94	1·00	14·73	0·98	14·52	0·97	14·31	0·95	14·10	0·94	440
450	17·28	1·13	17·06	1·11	16·83	1·10	16·61	1·08	16·38	1·07	16·16	1·06	15·94	1·04	15·71	1·03	15·49	1·01	15·26	1·00	15·04	0·98	450
460	18·41	1·17	18·17	1·16	17·93	1·14	17·69	1·13	17·45	1·12	17·22	1·10	16·98	1·08	16·74	1·07	16·50	1·06	16·26	1·04	16·02	1·03	460
470	19·58	1·21	19·33	1·19	19·07	1·18	18·82	1·17	18·57	1·15	18·32	1·13	18·06	1·12	17·81	1·10	17·56	1·09	17·30	1·08	17·05	1·06	470
480	20·79	1·25	20·52	1·24	20·25	1·22	19·99	1·20	19·72	1·19	19·45	1·18	19·18	1·16	18·91	1·15	18·65	1·13	18·38	1·11	18·11	1·10	480
490	22·04	1·30	21·76	1·28	21·47	1·27	21·19	1·25	20·91	1·23	20·63	1·22	20·34	1·21	20·06	1·19	19·78	1·17	19·49	1·16	19·21	1·14	490
500	23·34		23·04		22·74		22·44		22·14		21·85		21·55		21·25		20·95		20·65		20·35		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 1400—1500.

	1400	Diff.	1410	Diff.	1420	Diff.	1430	Diff.	1440	Diff.	1450	Diff.	1460	Diff.	1470	Diff.	1480	Diff.	1490	Diff.	1500	Diff.	
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0**
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
20	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20
30	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	30
40	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	40
50	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	50
60	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.02	60
70	0.06	0.03	0.06	0.03	0.06	0.03	0.06	0.03	0.06	0.03	0.06	0.03	0.05	0.03	0.05	0.03	0.05	0.03	0.05	0.03	0.05	0.03	70
80	0.09	0.04	0.09	0.04	0.09	0.04	0.09	0.03	0.09	0.03	0.09	0.03	0.08	0.04	0.08	0.04	0.08	0.03	0.08	0.03	0.08	0.03	80
90	0.13	0.05	0.13	0.05	0.13	0.04	0.12	0.05	0.12	0.05	0.12	0.05	0.12	0.04	0.12	0.04	0.11	0.05	0.11	0.04	0.11	0.04	90
100	0.18	0.05	0.18	0.05	0.17	0.05	0.17	0.05	0.17	0.05	0.17	0.05	0.16	0.05	0.16	0.05	0.16	0.05	0.15	0.05	0.15	0.05	**100**
110	0.23	0.07	0.23	0.07	0.22	0.07	0.22	0.07	0.22	0.06	0.22	0.06	0.21	0.07	0.21	0.06	0.21	0.06	0.20	0.06	0.20	0.06	110
120	0.30	0.08	0.30	0.08	0.29	0.08	0.29	0.08	0.28	0.08	0.28	0.08	0.28	0.07	0.27	0.08	0.27	0.07	0.26	0.08	0.26	0.07	120
130	0.38	0.10	0.38	0.09	0.37	0.10	0.37	0.09	0.36	0.10	0.36	0.09	0.35	0.09	0.35	0.09	0.34	0.09	0.34	0.09	0.33	0.09	130
140	0.48	0.11	0.47	0.11	0.47	0.10	0.46	0.11	0.46	0.10	0.45	0.10	0.44	0.10	0.44	0.10	0.43	0.10	0.43	0.09	0.42	0.09	140
150	0.59	0.12	0.58	0.12	0.57	0.12	0.57	0.11	0.56	0.11	0.55	0.12	0.54	0.12	0.54	0.11	0.53	0.11	0.52	0.11	0.51	0.11	150
160	0.71	0.14	0.70	0.14	0.69	0.14	0.68	0.14	0.67	0.14	0.67	0.13	0.66	0.12	0.65	0.12	0.64	0.12	0.63	0.12	0.62	0.12	160
170	0.85	0.16	0.84	0.16	0.83	0.15	0.82	0.15	0.81	0.15	0.80	0.15	0.78	0.15	0.77	0.15	0.76	0.15	0.75	0.14	0.74	0.14	170
180	1.01	0.18	1.00	0.18	0.98	0.17	0.97	0.18	0.96	0.17	0.95	0.17	0.93	0.17	0.92	0.17	0.91	0.16	0.89	0.16	0.88	0.16	180
190	1.19	0.20	1.18	0.19	1.15	0.20	1.15	0.19	1.13	0.19	1.12	0.18	1.10	0.18	1.09	0.17	1.07	0.18	1.05	0.18	1.04	0.17	190
200	1.39	0.22	1.37	0.22	1.35	0.21	1.34	0.21	1.32	0.21	1.30	0.21	1.28	0.20	1.26	0.20	1.25	0.19	1.23	0.19	1.21	0.19	**200**
210	1.61	0.23	1.59	0.23	1.56	0.23	1.55	0.22	1.53	0.22	1.51	0.22	1.48	0.22	1.46	0.22	1.44	0.22	1.42	0.21	1.40	0.21	210
220	1.84	0.26	1.82	0.25	1.79	0.25	1.77	0.25	1.75	0.24	1.73	0.24	1.70	0.24	1.68	0.24	1.66	0.23	1.63	0.23	1.61	0.23	220
230	2.10	0.28	2.07	0.28	2.04	0.28	2.02	0.27	1.99	0.27	1.97	0.26	1.94	0.26	1.92	0.25	1.89	0.25	1.86	0.25	1.84	0.24	230
240	2.38	0.31	2.35	0.30	2.32	0.30	2.29	0.30	2.26	0.29	2.23	0.29	2.20	0.28	2.17	0.28	2.14	0.28	2.11	0.27	2.08	0.27	240
250	2.69	0.33	2.65	0.33	2.62	0.32	2.59	0.32	2.55	0.32	2.52	0.31	2.48	0.31	2.45	0.30	2.42	0.30	2.38	0.29	2.35	0.29	250
260	3.02	0.36	2.98	0.36	2.94	0.35	2.91	0.34	2.87	0.34	2.83	0.33	2.79	0.33	2.75	0.32	2.72	0.32	2.67	0.32	2.64	0.31	260
270	3.38	0.38	3.34	0.37	3.29	0.37	3.25	0.37	3.21	0.36	3.16	0.36	3.12	0.35	3.07	0.35	3.04	0.34	2.99	0.34	2.95	0.33	270
280	3.76	0.41	3.71	0.40	3.66	0.40	3.62	0.39	3.57	0.39	3.52	0.39	3.47	0.38	3.42	0.38	3.38	0.37	3.33	0.36	3.28	0.36	280
290	4.17	0.43	4.11	0.43	4.06	0.43	4.01	0.42	3.96	0.41	3.91	0.41	3.85	0.41	3.80	0.40	3.75	0.40	3.69	0.39	3.64	0.39	290
300	4.60	0.47	4.54	0.47	4.49	0.45	4.43	0.45	4.37	0.45	4.32	0.44	4.26	0.43	4.20	0.43	4.15	0.42	4.08	0.42	4.03	0.41	**300**
310	5.07	0.50	5.01	0.49	4.94	0.49	4.88	0.48	4.82	0.47	4.76	0.46	4.69	0.46	4.63	0.45	4.57	0.44	4.50	0.44	4.44	0.43	310
320	5.57	0.53	5.50	0.52	5.43	0.52	5.36	0.51	5.29	0.50	5.22	0.50	5.15	0.49	5.08	0.48	5.01	0.47	4.94	0.47	4.87	0.46	320
330	6.10	0.56	6.02	0.56	5.95	0.54	5.87	0.54	5.79	0.53	5.72	0.52	5.64	0.52	5.56	0.51	5.48	0.51	5.41	0.49	5.33	0.49	330
340	6.66	0.59	6.58	0.58	6.49	0.58	6.41	0.57	6.32	0.57	6.24	0.56	6.16	0.54	6.07	0.54	5.99	0.53	5.90	0.53	5.82	0.52	340
350	7.25	0.62	7.16	0.61	7.07	0.60	6.98	0.60	6.89	0.59	6.80	0.58	6.70	0.58	6.61	0.57	6.52	0.56	6.43	0.56	6.34	0.55	350
360	7.87	0.65	7.77	0.64	7.67	0.64	7.58	0.63	7.48	0.62	7.38	0.61	7.28	0.60	7.18	0.60	7.08	0.59	6.99	0.58	6.89	0.57	360
370	8.52	0.69	8.41	0.69	8.31	0.67	8.21	0.66	8.10	0.65	7.99	0.65	7.88	0.64	7.78	0.63	7.67	0.63	7.57	0.61	7.46	0.61	370
380	9.21	0.72	9.10	0.71	8.98	0.71	8.87	0.69	8.75	0.69	8.64	0.68	8.52	0.68	8.41	0.66	8.30	0.65	8.18	0.65	8.07	0.64	380
390	9.93	0.76	9.81	0.75	9.69	0.74	9.56	0.73	9.44	0.73	9.32	0.72	9.20	0.70	9.07	0.70	8.95	0.69	8.83	0.67	8.71	0.66	390
400	10.69	0.80	10.56	0.79	10.43	0.78	10.29	0.78	10.17	0.76	10.04	0.75	9.90	0.74	9.77	0.73	9.64	0.72	9.50	0.71	9.37	0.70	**400**
410	11.49	0.83	11.35	0.82	11.21	0.81	11.07	0.80	10.93	0.79	10.79	0.78	10.64	0.77	10.50	0.76	10.36	0.75	10.21	0.75	10.07	0.74	410
420	12.32	0.87	12.17	0.86	12.02	0.85	11.87	0.83	11.72	0.82	11.57	0.81	11.41	0.81	11.26	0.80	11.11	0.79	10.96	0.77	10.81	0.76	420
430	13.19	0.91	13.03	0.90	12.87	0.88	12.70	0.88	12.54	0.86	12.38	0.85	12.22	0.84	12.06	0.83	11.90	0.82	11.73	0.81	11.57	0.80	430
440	14.10	0.94	13.93	0.93	13.75	0.92	13.58	0.91	13.40	0.90	13.23	0.89	13.06	0.88	12.89	0.86	12.72	0.85	12.54	0.85	12.37	0.83	440
450	15.04	0.98	14.86	0.97	14.67	0.96	14.49	0.95	14.30	0.94	14.12	0.93	13.94	0.91	13.75	0.90	13.57	0.89	13.39	0.88	13.20	0.87	450
460	16.02	1.03	15.83	1.01	15.63	1.00	15.44	0.99	15.24	0.98	15.05	0.96	14.85	0.95	14.65	0.94	14.46	0.93	14.27	0.91	14.07	0.90	460
470	17.05	1.06	16.84	1.05	16.63	1.04	16.43	1.02	16.22	1.01	16.01	1.00	15.80	0.99	15.59	0.98	15.39	0.96	15.18	0.95	14.97	0.94	470
480	18.11	1.10	17.89	1.09	17.67	1.07	17.45	1.06	17.23	1.05	17.01	1.04	16.79	1.02	16.57	1.01	16.35	1.00	16.13	0.98	15.91	0.97	480
490	19.21	1.14	18.98	1.12	18.74	1.12	18.51	1.10	18.28	1.09	18.05	1.07	17.81	1.06	17.58	1.05	17.35	1.03	17.11	1.03	16.88	1.01	490
500	20.35		20.10		19.86		19.61		19.37		19.12		18.87		18.63		18.38		18.14		17.89		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 1500—1600.

	1500	Diff.	1510	Diff.	1520	Diff.	1530	Diff.	1540	Diff.	1550	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0 00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
50	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
60	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02
70	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03	0·05	0·03
80	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03
90	0·11	0·04	0·11	0·04	0·11	0·04	0·11	0·04	0·11	0·04	0·11	0·04
100	0·15	0·05	0·15	0·05	0·15	0·05	0·15	0·04	0·15	0·04	0·15	0·04
110	0·20	0·06	0·20	0·06	0·20	0·05	0·19	0·06	0·19	0·06	0·19	0·05
120	0·26	0·07	0·26	0·07	0·25	0·07	0·25	0·07	0·25	0·07	0·24	0·07
130	0·33	0·09	0·33	0·08	0·32	0·09	0·32	0·08	0·32	0·08	0·31	0·08
140	0·42	0·09	0·41	0·09	0·41	0·09	0·40	0·09	0·40	0·09	0·39	0·09
150	0·51	0·11	0·50	0·11	0·50	0·11	0·49	0·11	0·49	0·10	0·48	0·11
160	0·62	0·12	0·61	0·12	0·61	0·11	0·60	0·11	0·59	0·11	0·59	0·11
170	0·74	0·14	0·73	0·14	0·72	0·14	0·71	0·14	0·70	0·14	0·70	0·13
180	0·88	0·16	0·87	0·16	0·86	0·15	0·85	0·15	0·84	0·15	0·83	0·15
190	1·04	0·17	1·03	0·17	1·01	0·17	1·00	0·17	0·99	0·16	0·98	0·16
200	1·21	0·19	1·20	0·18	1·18	0·19	1·17	0·18	1·15	0·18	1·14	0·18
210	1·40	0·21	1·38	0·21	1·37	0·20	1·35	0·20	1·33	0·20	1·32	0·19
220	1·61	0·23	1·59	0·23	1·57	0·22	1·55	0·22	1·53	0·22	1·51	0·22
230	1·84	0·24	1·82	0·24	1·79	0·24	1·77	0·24	1·75	0·23	1·73	0·23
240	2·08	0·27	2·06	0·26	2·03	0·26	2·01	0·26	1·98	0·25	1·96	0·25
250	2·35	0·29	2·32	0·29	2·29	0·29	2·27	0·27	2·23	0·28	2·21	0·27
260	2·64	0·31	2·61	0·30	2·58	0·30	2·54	0·30	2·51	0·30	2·48	0·29
270	2·95	0·33	2·91	0·33	2·88	0·33	2·84	0·33	2·81	0·32	2·77	0·32
280	3·28	0·36	3·24	0·36	3·21	0·35	3·17	0·35	3·13	0·34	3·09	0·34
290	3·64	0·39	3·60	0·38	3·56	0·37	3·52	0·37	3·47	0·37	3·43	0·36
300	4·03	0·41	3·98	0·41	3·93	0·40	3·89	0·39	3·84	0·39	3·79	0·39
310	4·44	0·43	4·39	0·43	4·33	0·42	4·28	0·42	4·23	0·41	4·18	0·40
320	4·87	0·46	4·82	0·45	4·75	0·45	4·70	0·44	4·64	0·44	4·58	0·44
330	5·33	0·49	5·27	0·48	5·20	0·48	5·14	0·48	5·08	0·47	5·02	0·46
340	5·82	0·52	5·75	0·52	5·68	0·51	5·62	0·50	5·55	0·49	5·48	0·49
350	6·34	0·55	6·27	0·54	6·19	0·54	6·12	0·53	6·04	0·52	5·97	0·52
360	6·89	0·57	6·81	0·56	6·73	0·56	6·65	0·55	6·56	0·55	6·49	0·54
370	7·46	0·61	7·37	0·61	7·29	0·59	7·20	0·59	7·11	0·58	7·03	0·57
380	8·07	0·64	7·98	0·63	7·88	0·62	7·79	0·61	7·69	0·61	7·60	0·60
390	8·71	0·66	8·61	0·65	8·50	0·65	8·40	0·64	8·30	0·63	8·20	0·63
400	9·37	0·70	9·26	0·69	9·15	0·69	9·04	0·68	8·93	0·67	8·83	0·66
410	10·07	0·74	9·95	0·73	9·84	0·72	9·72	0·71	9·60	0·70	9·49	0·69
420	10·81	0·76	10·68	0·76	10·56	0·74	10·43	0·74	10·30	0·73	10·18	0·72
430	11·57	0·80	11·44	0·79	11·30	0·78	11·17	0·77	11·03	0·76	10·90	0·76
440	12·37	0·83	12·23	0·82	12·08	0·82	11·94	0·80	11·79	0·80	11·66	0·78
450	13·20	0·87	13·05	0·86	12·90	0·85	12·74	0·84	12·59	0·83	12·44	0·82
460	14·07	0·90	13·91	0·89	13·75	0·88	13·58	0·87	13·42	0·86	13·26	0·85
470	14·97	0·94	14·80	0·93	14·63	0·92	14·45	0·91	14·28	0·90	14·11	0·89
480	15·91	0·97	15·73	0·96	15·55	0·94	15·36	0·94	15·18	0·93	15·00	0·92
490	16·88	1·01	16·69	1·00	16·49	0·99	16·30	0·98	16·11	0·96	15·92	0·95
500	17·89		17·69		17·48		17·28		17·07		16·87	

	1560	Diff.	1570	Diff.	1580	Diff.	1590	Diff.	1600	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·03	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
50	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
60	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02
70	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02
80	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03
90	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·04
100	0·14	0·05	0·14	0·05	0·14	0·04	0·14	0·04	0·14	0·04
110	0·19	0·05	0·19	0·05	0·18	0·06	0·18	0·05	0·18	0·05
120	0·24	0·07	0·24	0·06	0·24	0·06	0·23	0·06	0·23	0·05
130	0·31	0·08	0·30	0·08	0·30	0·08	0·29	0·08	0·29	0·08
140	0·39	0·09	0·38	0·09	0·38	0·08	0·37	0·09	0·37	0·08
150	0·48	0·10	0·47	0·10	0·46	0·10	0·46	0·10	0·45	0·10
160	0·58	0·11	0·57	0·11	0·56	0·11	0·56	0·10	0·55	0·10
170	0·69	0·12	0·68	0·12	0·67	0·12	0·66	0·12	0·65	0·12
180	0·81	0·15	0·80	0·15	0·79	0·14	0·78	0·14	0·77	0·14
190	0·96	0·16	0·95	0·16	0·93	0·16	0·92	0·16	0·91	0·15
200	1·12	0·18	1·11	0·17	1·09	0·17	1·08	0·17	1·06	0·17
210	1·30	0·19	1·28	0·19	1·26	0·19	1·25	0·18	1·23	0·18
220	1·49	0·21	1·47	0·21	1·45	0·21	1·43	0·20	1·41	0·20
230	1·70	0·23	1·68	0·23	1·66	0·22	1·63	0·23	1·61	0·22
240	1·93	0·25	1·91	0·24	1·88	0·24	1·86	0·24	1·83	0·24
250	2·18	0·27	2·15	0·26	2·12	0·26	2·10	0·25	2·07	0·25
260	2·45	0·29	2·41	0·29	2·38	0·28	2·35	0·28	2·32	0·27
270	2·74	0·31	2·70	0·31	2·66	0·31	2·63	0·30	2·59	0·30
280	3·05	0·34	3·01	0·33	2·97	0·33	2·93	0·32	2·89	0·32
290	3·39	0·35	3·34	0·35	3·30	0·35	3·25	0·35	3·21	0·34
300	3·74	0·38	3·69	0·37	3·65	0·37	3·60	0·36	3·55	0·36
310	4·12	0·40	4·06	0·40	4·02	0·39	3·96	0·39	3·91	0·38
320	4·52	0·43	4·46	0·43	4·41	0·42	4·35	0·41	4·29	0·41
330	4·95	0·46	4·89	0·45	4·83	0·45	4·76	0·44	4·70	0·44
340	5·41	0·49	5·34	0·48	5·28	0·47	5·20	0·47	5·14	0·46
350	5·90	0·50	5·82	0·50	5·75	0·49	5·67	0·49	5·60	0·48
360	6·40	0·54	6·32	0·53	6·24	0·52	6·16	0·52	6·08	0·51
370	6·94	0·56	6·85	0·56	6·76	0·55	6·68	0·54	6·59	0·53
380	7·50	0·60	7·41	0·59	7·31	0·58	7·22	0·57	7·12	0·57
390	8·10	0·62	8·00	0·61	7·89	0·61	7·79	0·60	7·69	0·59
400	8·72	0·65	8·61	0·64	8·50	0·63	8·39	0·63	8·28	0·62
410	9·37	0·68	9·25	0·68	9·13	0·67	9·02	0·66	8·90	0·65
420	10·05	0·72	9·93	0·70	9·80	0·70	9·68	0·68	9·55	0·68
430	10·77	0·74	10·63	0·74	10·50	0·73	10·36	0·72	10·23	0·71
440	11·51	0·78	11·37	0·77	11·23	0·75	11·08	0·75	10·94	0·74
450	12·29	0·81	12·14	0·80	11·98	0·79	11·83	0·78	11·68	0·77
460	13·10	0·84	12·94	0·83	12·77	0·82	12·61	0·81	12·45	0·80
470	13·94	0·88	13·77	0·87	13·59	0·86	13·42	0·85	13·25	0·84
480	14·82	0·90	14·64	0·89	14·45	0·89	14·27	0·87	14·09	0·86
490	15·72	0·95	15·53	0·93	15·34	0·92	15·14	0·91	14·95	0·90
500	16·67		16·46		16·26		16·05		15·85	

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 1600—1700.

	1600	Diff.	1610	Diff.	1620	Diff.	1630	Diff.	1640	Diff.	1650	Diff.	1660	Diff.	1670	Diff.	1680	Diff.	1690	Diff.	1700	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	30
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	40
50	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	50
60	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	60
70	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	70
80	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	80
90	0·10	0·04	0·10	0·04	0·10	0·04	0·10	0·03	0·10	0·03	0·10	0·03	0·09	0·04	0·09	0·04	0·09	0·03	0·09	0·03	0·09	0·03	90
100	0·14	0·04	0·14	0·04	0·14	0·04	0·13	0·04	0·13	0·04	0·13	0·04	0·13	0·04	0·13	0·04	0·12	0·04	0·12	0·04	0·12	0·04	**100**
110	0·18	0·05	0·18	0·05	0·18	0·05	0·17	0·05	0·17	0·05	0·17	0·05	0·17	0·05	0·17	0·05	0·16	0·05	0·16	0·05	0·16	0·05	110
120	0·23	0·06	0·23	0·06	0·23	0·06	0·22	0·06	0·22	0·06	0·22	0·06	0·22	0·05	0·22	0·05	0·21	0·06	0·21	0·05	0·21	0·05	120
130	0·29	0·08	0·29	0·08	0·29	0·07	0·28	0·08	0·28	0·07	0·28	0·07	0·27	0·07	0·27	0·07	0·27	0·06	0·26	0·07	0·26	0·06	130
140	0·37	0·08	0·37	0·08	0·36	0·08	0·36	0·08	0·35	0·08	0·35	0·08	0·34	0·08	0·34	0·08	0·33	0·08	0·33	0·08	0·32	0·08	140
150	0·45	0·10	0·45	0·09	0·44	0·10	0·44	0·09	0·43	0·09	0·43	0·09	0·42	0·09	0·42	0·08	0·41	0·08	0·41	0·08	0·40	0·08	150
160	0·55	0·10	0·54	0·10	0·54	0·10	0·53	0·10	0·52	0·10	0·52	0·10	0·51	0·10	0·50	0·10	0·49	0·10	0·49	0·10	0·48	0·10	160
170	0·65	0·12	0·64	0·12	0·64	0·11	0·63	0·12	0·62	0·12	0·62	0·11	0·61	0·11	0·60	0·11	0·59	0·12	0·59	0·11	0·58	0·11	170
180	0·77	0·14	0·76	0·14	0·75	0·14	0·75	0·13	0·74	0·13	0·73	0·13	0·72	0·13	0·71	0·13	0·71	0·12	0·70	0·12	0·69	0·12	180
190	0·91	0·15	0·90	0·15	0·89	0·15	0·88	0·15	0·87	0·14	0·86	0·14	0·85	0·14	0·84	0·14	0·83	0·14	0·82	0·13	0·81	0·13	190
200	1·06	0·17	1·05	0·16	1·04	0·16	1·03	0·16	1·01	0·16	1·00	0·16	0·99	0·15	0·98	0·15	0·97	0·15	0·95	0·15	0·94	0·15	**200**
210	1·23	0·18	1·21	0·18	1·20	0·18	1·19	0·17	1·17	0·18	1·16	0·17	1·14	0·17	1·13	0·17	1·12	0·17	1·10	0·17	1·09	0·16	210
220	1·41	0·20	1·39	0·20	1·38	0·19	1·36	0·20	1·35	0·19	1·33	0·19	1·31	0·19	1·30	0·18	1·29	0·18	1·27	0·18	1·25	0·18	220
230	1·61	0·22	1·59	0·22	1·57	0·22	1·56	0·21	1·54	0·21	1·52	0·21	1·50	0·20	1·48	0·20	1·47	0·20	1·45	0·19	1·43	0·19	230
240	1·83	0·24	1·81	0·23	1·79	0·23	1·77	0·23	1·75	0·22	1·73	0·22	1·70	0·22	1·68	0·22	1·67	0·21	1·64	0·21	1·62	0·21	240
250	2·07	0·25	2·04	0·25	2·02	0·25	2·00	0·24	1·97	0·25	1·95	0·24	1·92	0·24	1·90	0·24	1·88	0·23	1·85	0·24	1·83	0·23	250
260	2·32	0·27	2·29	0·27	2·27	0·26	2·24	0·26	2·22	0·26	2·19	0·26	2·16	0·26	2·14	0·25	2·11	0·25	2·09	0·25	2·06	0·25	260
270	2·59	0·30	2·56	0·29	2·53	0·29	2·50	0·29	2·48	0·28	2·45	0·28	2·42	0·27	2·39	0·27	2·36	0·27	2·34	0·26	2·31	0·26	270
280	2·89	0·32	2·85	0·32	2·82	0·32	2·79	0·31	2·76	0·31	2·73	0·30	2·69	0·30	2·66	0·30	2·63	0·29	2·60	0·29	2·57	0·28	280
290	3·21	0·34	3·17	0·34	3·14	0·33	3·10	0·33	3·07	0·32	3·03	0·32	2·99	0·32	2·96	0·31	2·92	0·31	2·89	0·30	2·85	0·30	290
300	3·55	0·36	3·51	0·36	3·47	0·35	3·43	0·35	3·39	0·34	3·35	0·34	3·31	0·34	3·27	0·33	3·23	0·33	3·19	0·33	3·15	0·32	**300**
310	3·91	0·38	3·87	0·38	3·82	0·38	3·78	0·37	3·73	0·37	3·69	0·36	3·65	0·36	3·60	0·36	3·56	0·35	3·52	0·35	3·47	0·35	310
320	4·29	0·41	4·25	0·40	4·20	0·40	4·15	0·39	4·10	0·39	4·05	0·39	4·01	0·38	3·96	0·38	3·91	0·37	3·87	0·36	3·82	0·36	320
330	4·70	0·44	4·65	0·43	4·60	0·42	4·54	0·43	4·49	0·42	4·44	0·41	4·39	0·40	4·34	0·40	4·28	0·40	4·23	0·39	5·18	0·38	330
340	5·14	0·46	5·08	0·46	5·02	0·45	4·97	0·44	4·91	0·44	4·85	0·44	4·79	0·43	4·74	0·42	4·68	0·42	4·62	0·41	4·56	0·41	340
350	5·60	0·48	5·54	0·48	5·47	0·47	5·41	0·47	5·35	0·46	5·29	0·45	5·22	0·45	5·16	0·44	5·10	0·44	5·03	0·44	4·97	0·43	350
360	6·08	0·51	6·02	0·50	5·94	0·50	5·88	0·49	5·81	0·48	5·74	0·48	5·67	0·48	5·60	0·47	5·54	0·46	5·47	0·46	5·40	0·45	360
370	6·59	0·53	6·52	0·52	6·44	0·52	6·37	0·51	6·29	0·51	6·22	0·51	6·15	0·50	6·07	0·50	6·00	0·49	5·93	0·48	5·85	0·48	370
380	7·12	0·57	7·04	0·56	6·96	0·56	6·88	0·55	6·80	0·54	6·73	0·53	6·65	0·52	6·57	0·52	6·49	0·51	6·41	0·51	6·33	0·50	380
390	7·69	0·59	7·60	0·59	7·52	0·58	7·43	0·57	7·34	0·57	7·26	0·56	7·17	0·56	7·09	0·55	7·00	0·54	6·92	0·53	6·83	0·53	390
400	8·28	0·62	8·19	0·61	8·10	0·60	8·00	0·61	7·91	0·60	7·82	0·59	7·73	0·58	7·64	0·57	7·54	0·57	7·45	0·57	7·36	0·56	**400**
410	8·90	0·65	8·80	0·65	8·70	0·64	8·61	0·63	8·51	0·62	8·41	0·62	8·31	0·61	8·21	0·61	8·11	0·60	8·02	0·59	7·92	0·58	410
420	9·55	0·68	9·45	0·67	9·34	0·66	9·24	0·65	9·13	0·65	9·03	0·64	8·92	0·63	8·82	0·62	8·71	0·62	8·61	0·60	8·50	0·60	420
430	10·23	0·71	10·12	0·70	10·00	0·70	9·89	0·69	9·78	0·68	9·67	0·67	9·55	0·66	9·44	0·65	9·33	0·64	9·21	0·64	9·10	0·63	430
440	10·94	0·74	10·82	0·73	10·70	0·72	10·58	0·72	10·46	0·71	10·34	0·70	10·21	0·70	10·09	0·69	9·97	0·68	9·85	0·67	9·73	0·66	440
450	11·68	0·77	11·55	0·77	11·42	0·76	11·30	0·75	11·17	0·74	11·04	0·73	10·91	0·72	10·78	0·71	10·65	0·71	10·52	0·70	10·39	0·69	450
460	12·45	0·80	12·32	0·79	12·18	0·78	12·05	0·77	11·91	0·76	11·77	0·76	11·63	0·75	11·49	0·74	11·36	0·73	11·22	0·73	11·08	0·72	460
470	13·25	0·84	13·11	0·82	12·96	0·81	12·82	0·80	12·67	0·80	12·53	0·79	12·38	0·78	12·23	0·77	12·09	0·76	11·95	0·75	11·80	0·75	470
480	14·09	0·86	13·93	0·86	13·77	0·85	13·62	0·84	13·47	0·83	13·32	0·82	13·16	0·81	13·00	0·81	12·85	0·80	12·70	0·78	12·55	0·77	480
490	14·95	0·90	14·79	0·89	14·62	0·88	14·46	0·87	14·30	0·86	14·14	0·85	13·97	0·84	13·81	0·83	13·65	0·82	13·48	0·81	13·32	0·80	490
500	15·85		15·68		15·50		15·33		15·16		14·99		14·81		14·64		14·47		14·29		14·12		**500**

Reduction to the sinus $\frac{\varphi}{2}$.

Reduction auf den Sinus $\frac{\varphi}{2}$.

Réduction au sinus $\frac{\varphi}{2}$.

Dist. 1700—1800.

	1700	Diff.	1710	Diff.	1720	Diff.	1730	Diff.	1740	Diff.	1750	Diff.	1760	Diff.	1770	Diff.	1780	Diff.	1790	Diff.	1800	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	30
40	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	40
50	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	50
60	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	60
70	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	70
80	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·03	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	80
90	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	90
100	0·12	0·04	0·12	0·04	0·12	0·04	0·12	0·04	0·12	0·04	0·12	0·04	0·11	0·04	0·11	0·04	0·11	0·04	0·11	0·03	0·11	0·03	**100**
110	0·16	0·05	0·16	0·05	0·16	0·04	0·16	0·04	0·16	0·04	0·16	0·04	0·15	0·04	0·15	0·04	0·15	0·04	0·14	0·04	0·14	0·04	110
120	0·21	0·05	0·21	0·05	0·20	0·05	0·20	0·05	0·20	0·05	0·20	0·05	0·19	0·05	0·19	0·05	0·19	0·05	0·18	0·05	0·18	0·05	120
130	0·26	0·06	0·26	0·06	0·25	0·06	0·25	0·06	0·25	0·06	0·25	0·06	0·24	0·06	0·24	0·06	0·24	0·06	0·23	0·06	0·23	0·06	130
140	0·32	0·08	0·32	0·08	0·31	0·08	0·31	0·08	0·31	0·07	0·31	0·07	0·30	0·07	0·30	0·07	0·30	0·07	0·29	0·07	0·29	0·07	140
150	0·40	0·08	0·40	0·08	0·39	0·08	0·39	0·08	0·38	0·08	0·38	0·08	0·37	0·08	0·37	0·08	0·37	0·07	0·36	0·08	0·36	0·07	150
160	0·48	0·10	0·48	0·09	0·47	0·10	0·47	0·09	0·46	0·10	0·46	0·09	0·45	0·09	0·45	0·09	0·44	0·09	0·44	0·09	0·43	0·09	160
170	0·58	0·11	0·57	0·11	0·57	0·11	0·56	0·11	0·56	0·10	0·55	0·11	0·54	0·11	0·54	0·10	0·53	0·10	0·53	0·10	0·52	0·10	170
180	0·69	0·12	0·68	0·12	0·68	0·11	0·67	0·11	0·66	0·11	0·66	0·11	0·65	0·11	0·64	0·11	0·63	0·11	0·63	0·10	0·62	0·10	180
190	0·81	0·13	0·80	0·13	0·79	0·13	0·78	0·13	0·77	0·13	0·77	0·12	0·76	0·12	0·75	0·12	0·74	0·12	0·73	0·12	0·72	0·12	190
200	0·94	0·15	0·93	0·15	0·92	0·15	0·91	0·14	0·90	0·14	0·89	0·14	0·88	0·14	0·87	0·14	0·86	0·14	0·85	0·13	0·84	0·13	**200**
210	1·09	0·16	1·08	0·16	1·07	0·15	1·05	0·16	1·04	0·16	1·03	0·16	1·02	0·15	1·01	0·15	1·00	0·15	0·98	0·15	0·97	0·15	210
220	1·25	0·18	1·24	0·18	1·22	0·18	1·21	0·18	1·20	0·17	1·19	0·17	1·17	0·17	1·16	0·17	1·15	0·16	1·13	0·17	1·12	0·16	220
230	1·43	0·19	1·42	0·19	1·40	0·19	1·39	0·18	1·37	0·18	1·36	0·18	1·34	0·18	1·33	0·18	1·31	0·18	1·30	0·17	1·28	0·17	230
240	1·62	0·21	1·61	0·20	1·59	0·21	1·57	0·20	1·55	0·20	1·54	0·20	1·52	0·20	1·51	0·19	1·49	0·19	1·47	0·19	1·45	0·19	240
250	1·83	0·23	1·81	0·23	1·80	0·22	1·77	0·22	1·75	0·22	1·74	0·21	1·72	0·21	1·70	0·21	1·68	0·21	1·66	0·21	1·64	0·20	250
260	2·06	0·25	2·04	0·25	2·02	0·24	1·99	0·25	1·97	0·24	1·95	0·24	1·93	0·23	1·91	0·23	1·89	0·22	1·87	0·22	1·84	0·22	260
270	2·31	0·26	2·29	0·26	2·26	0·26	2·24	0·25	2·21	0·25	2·19	0·25	2·16	0·25	2·14	0·24	2·11	0·24	2·09	0·24	2·06	0·24	270
280	2·57	0·28	2·55	0·27	2·52	0·27	2·49	0·27	2·46	0·27	2·44	0·27	2·41	0·26	2·38	0·26	2·35	0·26	2·33	0·25	2·30	0·25	280
290	2·85	0·30	2·82	0·30	2·79	0·29	2·76	0·29	2·73	0·29	2·71	0·28	2·67	0·28	2·64	0·28	2·61	0·28	2·58	0·27	2·55	0·27	290
300	3·15	0·32	3·12	0·32	3·08	0·32	3·05	0·31	3·02	0·31	2·99	0·30	2·95	0·30	2·92	0·29	2·89	0·29	2·85	0·29	2·82	0·28	**300**
310	3·47	0·35	3·44	0·34	3·40	0·34	3·36	0·34	3·33	0·33	3·29	0·33	3·25	0·32	3·21	0·32	3·18	0·31	3·14	0·31	3·10	0·31	310
320	3·82	0·36	3·78	0·36	3·74	0·35	3·70	0·35	3·66	0·34	3·62	0·34	3·57	0·35	3·53	0·34	3·49	0·34	3·45	0·33	3·41	0·33	320
330	4·18	0·38	4·14	0·38	4·09	0·37	4·05	0·37	4·00	0·37	3·96	0·36	3·92	0·36	3·87	0·36	3·83	0·35	3·78	0·35	3·74	0·34	330
340	4·56	0·41	4·52	0·40	4·46	0·41	4·42	0·39	4·37	0·39	4·32	0·39	4·28	0·38	4·23	0·38	4·18	0·37	4·13	0·37	4·08	0·37	340
350	4·97	0·43	4·92	0·42	4·87	0·42	4·81	0·42	4·76	0·41	4·71	0·41	4·66	0·40	4·61	0·39	4·55	0·39	4·50	0·39	4·45	0·38	350
360	5·40	0·45	5·34	0·45	5·29	0·44	5·23	0·44	5·17	0·44	5·12	0·43	5·06	0·42	5·00	0·42	4·94	0·42	4·89	0·41	4·83	0·41	360
370	5·85	0·48	5·79	0·47	5·73	0·47	5·67	0·46	5·61	0·46	5·55	0·45	5·48	0·45	5·42	0·45	5·36	0·44	5·30	0·44	5·24	0·43	370
380	6·33	0·50	6·26	0·50	6·20	0·49	6·13	0·49	6·07	0·48	6·00	0·48	5·93	0·47	5·87	0·46	5·80	0·46	5·74	0·45	5·67	0·45	380
390	6·83	0·53	6·76	0·53	6·69	0·52	6·62	0·51	6·55	0·51	6·48	0·50	6·40	0·50	6·33	0·49	6·26	0·49	6·19	0·48	6·12	0·47	390
400	7·36	0·56	7·29	0·55	7·21	0·54	7·13	0·54	7·06	0·53	6·98	0·53	6·90	0·52	6·82	0·52	6·75	0·51	6·67	0·50	6·59	0·50	**400**
410	7·92	0·58	7·84	0·57	7·75	0·57	7·67	0·56	7·59	0·55	7·51	0·55	7·42	0·55	7·34	0·54	7·26	0·53	7·17	0·53	7·09	0·52	410
420	8·50	0·60	8·41	0·60	8·32	0·59	8·23	0·59	8·14	0·58	8·06	0·57	7·97	0·56	7·88	0·56	7·79	0·55	7·70	0·55	7·61	0·54	420
430	9·10	0·63	9·01	0·62	8·91	0·62	8·82	0·61	8·72	0·61	8·63	0·60	8·53	0·59	8·44	0·58	8·34	0·58	8·25	0·58	8·15	0·57	430
440	9·73	0·66	9·63	0·65	9·53	0·65	9·43	0·64	9·33	0·63	9·23	0·63	9·12	0·63	9·02	0·62	8·92	0·61	8·83	0·60	8·72	0·60	440
450	10·39	0·69	10·28	0·69	10·18	0·68	10·07	0·67	9·96	0·66	9·86	0·65	9·75	0·65	9·64	0·64	9·53	0·64	9·43	0·52	9·32	0·62	450
460	11·08	0·72	10·97	0·71	10·86	0·70	10·74	0·70	10·62	0·69	10·51	0·68	10·40	0·67	10·28	0·67	10·17	0·66	10·05	0·65	9·94	0·64	460
470	11·80	0·75	11·68	0·74	11·56	0·73	11·44	0·72	11·31	0·72	11·19	0·71	11·07	0·70	10·95	0·69	10·83	0·68	10·70	0·68	10·58	0·67	470
480	12·55	0·77	12·42	0·76	12·29	0·76	12·16	0·75	12·03	0·74	11·90	0·74	11·77	0·73	11·64	0·72	11·51	0·71	11·38	0·71	11·25	0·70	480
490	13·32	0·80	13·18	0·80	13·05	0·78	12·91	0·78	12·77	0·77	12·64	0·76	12·50	0·75	12·36	0·75	12·22	0·74	12·09	0·73	11·95	0·72	490
500	14·12		13·98		13·83		13·69		13·54		13·40		13·25		13·11		12·96		12·82		12·67		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 1800—1900.

	1800	Diff.	1810	Diff.	1820	Diff.	1830	Diff.	1840	Diff.	1850	Diff.	1860	Diff.	1870	Diff.	1880	Diff.	1890	Diff.	1900	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	30
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	40
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	50
60	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	60
70	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	70
80	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	80
90	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·03	90
100	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·03	100
110	0·14	0·04	0·14	0·04	0·14	0·04	0·14	0·03	0·14	0·03	0·14	0·03	0·13	0·04	0·13	0·04	0·13	0·04	0·13	0·04	0·13	0·04	110
120	0·18	0·05	0·18	0·05	0·18	0·05	0·17	0·05	0·17	0·05	0·17	0·05	0·17	0·05	0·17	0·05	0·17	0·05	0·17	0·04	0·17	0·04	120
130	0·23	0·06	0·23	0·06	0·23	0·05	0·22	0·06	0·22	0·06	0·22	0·06	0·22	0·05	0·22	0·05	0·22	0·05	0·21	0·05	0·21	0·05	130
140	0·29	0·07	0·29	0·07	0·28	0·07	0·28	0·07	0·28	0·06	0·28	0·06	0·27	0·07	0·27	0·06	0·27	0·06	0·26	0·06	0·26	0·06	140
150	0·36	0·07	0·36	0·07	0·35	0·07	0·35	0·07	0·34	0·07	0·34	0·07	0·34	0·07	0·33	0·07	0·33	0·07	0·32	0·07	0·32	0·07	150
160	0·43	0·09	0·43	0·08	0·42	0·09	0·42	0·08	0·41	0·09	0·41	0·08	0·41	0·08	0·40	0·08	0·40	0·07	0·39	0·08	0·39	0·07	160
170	0·52	0·10	0·51	0·10	0·51	0·10	0·50	0·10	0·50	0·09	0·49	0·10	0·49	0·09	0·48	0·09	0·47	0·09	0·47	0·09	0·46	0·09	170
180	0·62	0·10	0·61	0·10	0·61	0·10	0·60	0·10	0·59	0·10	0·59	0·10	0·58	0·10	0·57	0·10	0·56	0·10	0·56	0·10	0·55	0·10	180
190	0·72	0·12	0·71	0·12	0·71	0·11	0·70	0·12	0·69	0·12	0·69	0·11	0·68	0·11	0·67	0·11	0·66	0·12	0·66	0·11	0·65	0·11	190
200	0·84	0·13	0·83	0·13	0·82	0·13	0·82	0·13	0·81	0·13	0·80	0·13	0·79	0·13	0·78	0·13	0·78	0·12	0·77	0·12	0·76	0·12	200
210	0·97	0·15	0·96	0·15	0·95	0·15	0·95	0·14	0·94	0·14	0·93	0·14	0·92	0·13	0·91	0·13	0·90	0·13	0·89	0·13	0·88	0·13	210
220	1·12	0·16	1·11	0·16	1·10	0·15	1·09	0·15	1·08	0·15	1·07	0·15	1·05	0·15	1·04	0·15	1·03	0·15	1·02	0·14	1·01	0·14	220
230	1·28	0·17	1·27	0·17	1·25	0·17	1·24	0·17	1·23	0·16	1·22	0·16	1·20	0·16	1·19	0·16	1·18	0·15	1·16	0·16	1·15	0·15	230
240	1·45	0·19	1·44	0·18	1·42	0·19	1·41	0·18	1·39	0·18	1·38	0·18	1·36	0·18	1·35	0·17	1·33	0·17	1·32	0·17	1·30	0·17	240
250	1·64	0·20	1·62	0·20	1·61	0·20	1·59	0·19	1·57	0·20	1·56	0·19	1·54	0·19	1·52	0·19	1·50	0·19	1·49	0·18	1·47	0·18	250
260	1·84	0·22	1·82	0·22	1·81	0·21	1·78	0·22	1·77	0·21	1·75	0·21	1·73	0·20	1·71	0·20	1·69	0·20	1·67	0·20	1·65	0·20	260
270	2·06	0·24	2·04	0·24	2·02	0·23	2·00	0·23	1·98	0·22	1·96	0·22	1·93	0·23	1·91	0·22	1·89	0·22	1·87	0·22	1·85	0·21	270
280	2·30	0·25	2·28	0·25	2·25	0·25	2·23	0·24	2·20	0·25	2·18	0·24	2·16	0·24	2·13	0·24	2·11	0·23	2·09	0·23	2·06	0·23	280
290	2·55	0·27	2·53	0·26	2·50	0·26	2·47	0·26	2·45	0·26	2·42	0·26	2·40	0·25	2·37	0·25	2·34	0·25	2·32	0·24	2·29	0·24	290
300	2·82	0·28	2·79	0·28	2·76	0·28	2 73	0·28	2·71	0·27	2·68	0·27	2·65	0·27	2·62	0·27	2·59	0·27	2·56	0·26	2·53	0·26	300
310	3·10	0·31	3·07	0·31	3·04	0·30	3·01	0·30	2·98	0·29	2·95	0·29	2·92	0·29	2·89	0·28	2·86	0·28	2·82	0·28	2·79	0·28	310
320	3·41	0·33	3·38	0·32	3·34	0·32	3·31	0·32	3·27	0·32	3·24	0·31	3·21	0·30	3·17	0·30	3·14	0·30	3·10	0·30	3·07	0·29	320
330	3·74	0·34	3·70	0·34	3·66	0·34	3·63	0·34	3·59	0·33	3·55	0·33	3·51	0·32	3·47	0·32	3·44	0·31	3·40	0·32	3·36	0·31	330
340	4·08	0·37	4·04	0·37	4·00	0·36	3·97	0·35	3·92	0·35	3·88	0·35	3·83	0·35	3·79	0·35	3·75	0·34	3·72	0·33	3·67	0·33	340
350	4·45	0·38	4·41	0·38	4·36	0·38	4 32	0·37	4·27	0·37	4·23	0·36	4·18	0·36	4·14	0·36	4·09	0·36	4·05	0·35	4·00	0·35	350
360	4·83	0·41	4·79	0·40	4·74	0·40	4·69	0·39	4·64	0·39	4·59	0·39	4·54	0·39	4·50	0·38	4·45	0·37	4·40	0·37	4·35	0·37	360
370	5·24	0·43	5·19	0·42	5·14	0·42	5·08	0·42	5·03	0·41	4·98	0·41	4·93	0·40	4·88	0·39	4·82	0·39	4·77	0·39	4·72	0·38	370
380	5·67	0·45	5·61	0·45	5·56	0·44	5·50	0·44	5·44	0·44	5·39	0·43	5·33	0·42	5·27	0·42	5·21	0·42	5·16	0·41	5·10	0·41	380
390	6·12	0·47	6·06	0·47	6·00	0·46	5·94	0·46	5·88	0·45	5·82	0·45	5·75	0·45	5·69	0·45	5·63	0·44	5·57	0·44	5·51	0·43	390
400	6·59	0·50	6·53	0·49	6·46	0·49	6·40	0·48	6·33	0·48	6·27	0·47	6·20	0·46	6·14	0·46	6·07	0·45	6·01	0·45	5·94	0·44	400
410	7·09	0·52	7·02	0·51	6·95	0·51	6·88	0·50	6·81	0·50	6·74	0·49	6·66	0·49	6·60	0·48	6·52	0·48	6·46	0·47	6·38	0·47	410
420	7·61	0·54	7·53	0·54	7·46	0·53	7·38	0·53	7·31	0·52	7·23	0·52	7·15	0·51	7·08	0·50	7·00	0·50	6·93	0·50	6·85	0·49	420
430	8·15	0·57	8·07	0·56	7·99	0·56	7·91	0·55	7·83	0·55	7·75	0·54	7·66	0·54	7·58	0·54	7·50	0·53	7·43	0·52	7·34	0·52	430
440	8·72	0·60	8·63	0·60	8·55	0·58	8·46	0·58	8·38	0·57	8·29	0·57	8·20	0·56	8·12	0·55	8·03	0·55	7·95	0·54	7·86	0·53	440
450	9·32	0·62	9·23	0·61	9·13	0·61	9·04	0·60	8·95	0·59	8·86	0·59	8·76	0·59	8·67	0·58	8·58	0·57	8·49	0·56	8·39	0·56	450
460	9·94	0·64	9·84	0·64	9·74	0·63	9·64	0·63	9·54	0·62	9·45	0·61	9·35	0·60	9·25	0·60	9·15	0·59	9·05	0·59	8·95	0·58	460
470	10·58	0·67	10·48	0·66	10·37	0·66	10·27	0·65	10·16	0·65	10·06	0·64	9·95	0·63	9·85	0·62	9·74	0·62	9·64	0·61	9·53	0·61	470
480	11·25	0·70	11·14	0·69	11·03	0·68	10·92	0·68	10·81	0·67	10·70	0·66	10·58	0·66	10·47	0·65	10·36	0·65	10·25	0·64	10·14	0·63	480
490	11·95	0·72	11·83	0·72	11·71	0·71	11·60	0·70	11·48	0·69	11·36	0·69	11·24	0·68	11·12	0·68	11·01	0·66	10·89	0·66	10·77	0·65	490
500	12·67		12·55		12·42		12·30		12·17		12·05		11·92		11·80		11·67		11·55		11·42		500

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 1900—2000.

	1900	Diff.	1910	Diff.	1920	Diff.	1930	Diff.	1940	Diff.	1950	Diff.
0	0·00	0·	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
60	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
70	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02	0·03	0·02
80	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02
90	0·07	0·03	0·07	0·03	0·07	0·03	0·07	0·02	0·07	0·02	0·07	0·02
100	0·10	0·03	0·10	0·03	0·10	0·03	0·09	0·03	0·09	0·03	0·09	0·03
110	0·13	0·04	0·13	0·04	0·13	0·04	0·12	0·04	0·12	0·04	0·12	0·04
120	0·17	0·04	0·17	0·04	0·17	0·04	0·16	0·04	0·16	0·04	0·16	0·04
130	0·21	0·05	0·21	0·05	0·21	0·05	0·20	0·05	0·20	0·05	0·20	0·05
140	0·26	0·06	0·26	0·06	0·26	0·05	0·25	0·06	0·25	0·06	0·25	0·06
150	0·32	0·07	0·32	0·07	0·31	0·07	0·31	0·07	0·31	0·06	0·31	0·05
160	0·39	0·07	0·39	0·07	0·38	0·07	0·38	0·07	0·37	0·07	0·37	0·07
170	0·46	0·09	0·46	0·09	0·45	0·09	0·45	0·09	0·44	0·09	0·44	0·09
180	0·55	0·10	0·55	0·09	0·54	0·10	0·54	0·09	0·53	0·10	0·53	0·09
190	0·65	0·11	0·64	0·11	0·64	0·11	0·63	0·11	0·63	0·10	0·62	0·11
200	0·76	0·12	0·75	0·12	0·75	0·11	0·74	0·11	0·73	0·11	0·73	0·11
210	0·88	0·13	0·87	0·13	0·86	0·13	0·85	0·13	0·84	0·13	0·84	0·12
220	1·01	0·14	1·00	0·14	0·99	0·14	0·98	0·14	0·97	0·14	0·96	0·14
230	1·15	0·15	1·14	0·15	1·13	0·15	1·12	0·15	1·11	0·14	1·10	0·14
240	1·30	0·17	1·29	0·17	1·28	0·16	1·27	0·16	1·25	0·16	1·24	0·16
250	1·47	0·18	1·46	0·18	1·44	0·18	1·43	0·18	1·41	0·18	1·40	0·18
260	1·65	0·20	1·64	0·19	1·62	0·19	1·61	0·19	1·59	0·19	1·58	0·18
270	1·85	0·21	1·83	0·21	1·81	0·21	1·80	0·20	1·78	0·20	1·76	0·20
280	2·06	0·23	2·04	0·23	2·02	0·23	2·00	0·22	1·98	0·22	1·96	0·22
290	2·29	0·24	2·27	0·24	2·25	0·24	2·22	0·24	2·20	0·24	2·18	0·23
300	2·53	0·26	2·51	0·26	2·49	0·25	2·46	0·25	2·44	0·25	2·41	0·25
310	2·79	0·28	2·77	0·27	2·74	0·27	2·71	0·27	2·69	0·26	2·66	0·27
320	3·07	0·29	3·04	0·29	3·01	0·29	2·98	0·29	2·95	0·28	2·93	0·28
330	3·36	0·31	3·33	0·31	3·30	0·30	3·27	0·30	3·23	0·30	3·21	0·29
340	3·67	0·33	3·64	0·32	3·60	0·33	3·57	0·32	3·53	0·32	3·50	0·31
350	4·00	0·35	3·96	0·35	3·93	0·34	3·89	0·34	3·85	0·34	3·81	0·33
360	4·35	0·37	4·31	0·36	4·27	0·36	4·23	0·35	4·19	0·35	4·14	0·35
370	4·72	0·38	4·67	0·38	4·63	0·37	4·58	0·37	4·54	0·37	4·49	0·37
380	5·10	0·41	5·05	0·41	5·00	0·40	4·95	0·40	4·91	0·39	4·86	0·39
390	5·51	0·43	5·46	0·42	5·40	0·43	5·35	0·42	5·30	0·41	5·25	0·41
400	5·94	0·44	5·88	0·44	5·83	0·43	5·77	0·43	5·71	0·43	5·66	0·42
410	6·38	0·47	6·32	0·47	6·26	0·46	6·20	0·46	6·14	0·45	6·08	0·45
420	6·85	0·49	6·79	0·49	6·72	0·48	6·66	0·47	6·59	0·47	6·53	0·47
430	7·34	0·52	7·28	0·51	7·20	0·51	7·13	0·51	7·06	0·50	7·00	0·49
440	7·86	0·53	7·79	0·53	7·71	0·52	7·64	0·52	7·56	0·51	7·49	0·51
450	8·39	0·56	8·32	0·55	8·23	0·55	8·16	0·54	8·07	0·54	8·00	0·53
460	8·95	0·58	8·87	0·57	8·78	0·57	8·70	0·56	8·61	0·56	8·53	0·55
470	9·53	0·61	9·44	0·60	9·35	0·60	9·26	0·59	9·17	0·59	9·08	0·58
480	10·14	0·63	10·04	0·63	9·95	0·62	9·85	0·61	9·76	0·60	9·66	0·60
490	10·77	0·65	10·67	0·64	10·57	0·64	10·46	0·64	10·36	0·63	10·26	0·63
500	11·42		11·31		11·21		11·10		10·99		10·89	

	1960	Diff.	1970	Diff.	1980	Diff.	1990	Diff.	2000	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
60	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
70	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
80	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02
90	0·06	0·03	0·06	0·03	0·06	0·02	0·06	0·02	0·06	0·02
100	0·09	0·03	0·09	0·03	0·08	0·03	0·08	0·03	0·08	0·03
110	0·12	0·04	0·12	0·04	0·11	0·04	0·11	0·04	0·11	0·04
120	0·16	0·04	0·16	0·04	0·15	0·04	0·15	0·04	0·15	0·04
130	0·20	0·05	0·20	0·05	0·19	0·05	0·19	0·05	0·19	0·05
140	0·25	0·05	0·25	0·05	0·24	0·05	0·24	0·05	0·24	0·05
150	0·30	0·07	0·30	0·06	0·30	0·06	0·29	0·06	0·29	0·06
160	0·37	0·07	0·36	0·07	0·36	0·07	0·35	0·07	0·35	0·07
170	0·44	0·08	0·43	0·09	0·43	0·08	0·42	0·09	0·42	0·08
180	0·52	0·09	0·52	0·09	0·51	0·09	0·51	0·09	0·50	0·09
190	0·61	0·11	0·61	0·10	0·60	0·10	0·60	0·10	0·59	0·10
200	0·72	0·11	0·71	0·11	0·70	0·11	0·70	0·10	0·69	0·10
210	0·83	0·12	0·82	0·12	0·81	0·12	0·80	0·12	0·79	0·12
220	0·95	0·13	0·94	0·13	0·93	0·13	0·92	0·13	0·91	0·13
230	1·08	0·15	1·07	0·15	1·06	0·14	1·05	0·14	1·04	0·14
240	1·23	0·16	1·22	0·16	1·20	0·16	1·19	0·15	1·18	0·15
250	1·39	0·17	1·38	0·17	1·36	0·17	1·34	0·17	1·33	0·17
260	1·56	0·18	1·55	0·18	1·53	0·18	1·51	0·18	1·50	0·17
270	1·74	0·20	1·73	0·20	1·71	0·19	1·69	0·19	1·67	0·19
280	1·94	0·22	1·93	0·21	1·90	0·21	1·88	0·21	1·86	0·21
290	2·16	0·23	2·14	0·23	2·11	0·23	2·09	0·23	2·07	0·22
300	2·39	0·25	2·37	0·24	2·34	0·24	2·32	0·24	2·29	0·24
310	2·64	0·26	2·61	0·26	2·58	0·26	2·56	0·25	2·53	0·25
320	2·90	0·27	2·87	0·27	2·84	0·26	2·81	0·27	2·78	0·26
330	3·17	0·29	3·14	0·29	3·10	0·29	3·08	0·28	3·04	0·28
340	3·46	0·31	3·43	0·31	3·39	0·31	3·36	0·30	3·32	0·30
350	3·77	0·33	3·74	0·32	3·70	0·31	3·66	0·32	3·62	0·31
360	4·10	0·35	4·06	0·34	4·01	0·34	3·98	0·33	3·93	0·33
370	4·45	0·36	4·40	0·36	4·35	0·36	4·31	0·35	4·26	0·35
380	4·81	0·38	4·76	0·38	4·71	0·38	4·66	0·38	4·61	0·37
390	5·19	0·41	5·14	0·40	5·09	0·39	5·04	0·39	4·98	0·39
400	5·60	0·43	5·54	0·42	5·48	0·42	5·43	0·41	5·37	0·41
410	6·03	0·44	5·96	0·44	5·90	0·44	5·84	0·43	5·78	0·43
420	6·47	0·46	6·40	0·46	6·34	0·45	6·27	0·45	6·21	0·44
430	6·93	0·48	6·86	0·48	6·79	0·47	6·72	0·47	6·65	0·46
440	7·41	0·50	7·34	0·50	7·26	0·49	7·19	0·49	7·11	0·48
450	7·91	0·53	7·84	0·52	7·75	0·52	7·68	0·51	7·59	0·51
460	8·44	0·55	8·36	0·54	8·27	0·54	8·19	0·53	8·10	0·53
470	8·99	0·57	8·90	0·57	8·81	0·56	8·72	0·56	8·63	0·55
480	9·56	0·60	9·47	0·59	9·37	0·58	9·28	0·58	9·18	0·57
490	10·16	0·62	10·06	0·61	9·95	0·61	9·86	0·60	9·75	0·60
500	10·78		10·67		10·56		10·46		10·35	

Reduction to the sinus $\frac{\varphi}{2}$. Reduction auf den Sinus $\frac{\varphi}{2}$. *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 2000—2200.

	2000	Diff.	2020	Diff.	2040	Diff.	2060	Diff.	2080	Diff.	2100	Diff.	2120	Diff.	2140	Diff.	2160	Diff.	2180	Diff.	2200	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	50
60	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	60
70	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	70
80	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	80
90	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	90
100	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·08	0·03	0·07	0·03	0·07	0·03	0·07	0·02	0·07	0·02	0·07	0·02	**100**
110	0·11	0·04	0·11	0·04	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·10	0·03	0·10	0·03	0·09	0·04	0·09	0·03	0·09	0·03	110
120	0·15	0·04	0·15	0·04	0·14	0·04	0·14	0·04	0·14	0·04	0·14	0·04	0·13	0·04	0·13	0·04	0·13	0·04	0·12	0·04	0·12	0·04	120
130	0·19	0·05	0·19	0·05	0·18	0·05	0·18	0·05	0·18	0·04	0·18	0·04	0·17	0·04	0·17	0·04	0·17	0·04	0·16	0·04	0·16	0·04	130
140	0·24	0·05	0·24	0·05	0·23	0·05	0·23	0·05	0·22	0·05	0·22	0·05	0·21	0·05	0·21	0·05	0·21	0·04	0·20	0·05	0·20	0·04	140
150	0·29	0·06	0·29	0·05	0·28	0·06	0·28	0·05	0·27	0·06	0·27	0·05	0·26	0·05	0·26	0·05	0·25	0·05	0·25	0·05	0·24	0·05	150
160	0·35	0·07	0·34	0·07	0·34	0·06	0·33	0·07	0·33	0·06	0·32	0·06	0·31	0·06	0·31	0·05	0·30	0·06	0·30	0·05	0·29	0·05	160
170	0·42	0·08	0·41	0·08	0·40	0·08	0·40	0·07	0·39	0·07	0·38	0·08	0·37	0·07	0·36	0·07	0·36	0·07	0·35	0·07	0·34	0·07	170
180	0·50	0·09	0·49	0·09	0·48	0·09	0·47	0·09	0·46	0·09	0·46	0·08	0·44	0·08	0·43	0·08	0·43	0·07	0·42	0·07	0·41	0·07	180
190	0·59	0·10	0·58	0·10	0·57	0·09	0·56	0·09	0·55	0·09	0·54	0·09	0·52	0·09	0·51	0·09	0·50	0·09	0·49	0·08	0·48	0·08	190
200	0·69	0·10	0·68	0·10	0·66	0·10	0·65	0·10	0·64	0·10	0·63	0·09	0·61	0·10	0·60	0·09	0·59	0·09	0·57	0·09	0·56	0·09	**200**
210	0·79	0·12	0·78	0·11	0·76	0·12	0·75	0·11	0·74	0·11	0·72	0·11	0·71	0·10	0·69	0·11	0·68	0·10	0·66	0·11	0·65	0·10	210
220	0·91	0·13	0·89	0·13	0·88	0·12	0·86	0·13	0·85	0·12	0·83	0·12	0·81	0·12	0·80	0·11	0·78	0·11	0·77	0·11	0·75	0·11	220
230	1·04	0·14	1·02	0·14	1·00	0·14	0·99	0·13	0·97	0·13	0·95	0·13	0·93	0·12	0·91	0·12	0·89	0·12	0·88	0·11	0·86	0·11	230
240	1·18	0·15	1·16	0·15	1·14	0·14	1·12	0·14	1·10	0·14	1·08	0·14	1·05	0·14	1·03	0·14	1·01	0·14	0·99	0·13	0·97	0·13	240
250	1·33	0·17	1·31	0·16	1·28	0·16	1·26	0·16	1·24	0·16	1·22	0·15	1·19	0·15	1·17	0·15	1·15	0·14	1·12	0·15	1·10	0·14	250
260	1·50	0·17	1·47	0·17	1·44	0·17	1·42	0·17	1·40	0·16	1·37	0·16	1·34	0·16	1·32	0·15	1·29	0·15	1·27	0·15	1·24	0·15	260
270	1·67	0·19	1·64	0·19	1·61	0·19	1·59	0·18	1·56	0·18	1·53	0·17	1·50	0·17	1·47	0·17	1·44	0·16	1·42	0·16	1·39	0·15	270
280	1·86	0·21	1·83	0·20	1·80	0·20	1·77	0·19	1·74	0·19	1·70	0·19	1·67	0·18	1·64	0·18	1·60	0·18	1·58	0·17	1·54	0·17	280
290	2·07	0·22	2·03	0·22	2·00	0·21	1·96	0·21	1·93	0·20	1·89	0·20	1·85	0·20	1·82	0·19	1·78	0·19	1·75	0·18	1·71	0·18	290
300	2·29	0·24	2·25	0·24	2·21	0·23	2·17	0·23	2·13	0·22	2·09	0·22	2·05	0·22	2·01	0·21	1·97	0·21	1·93	0·20	1·89	0·20	**300**
310	2·53	0·25	2·49	0·24	2·44	0·24	2·40	0·24	2·35	0·24	2·31	0·23	2·27	0·22	2·22	0·22	2·18	0·22	2·13	0·22	2·09	0·21	310
320	2·78	0·26	2·73	0·26	2·68	0·26	2·64	0·25	2·59	0·24	2·54	0·24	2·49	0·24	2·44	0·24	2·40	0·22	2·35	0·22	2·30	0·22	320
330	3·04	0·28	2·99	0·27	2·94	0·27	2·89	0·26	2·83	0·26	2·78	0·26	2·73	0·25	2·68	0·25	2·62	0·24	2·57	0·24	2·52	0·23	330
340	3·32	0·30	3·26	0·29	3·21	0·29	3·15	0·28	3·09	0·28	3·04	0·27	2·98	0·27	2·93	0·26	2·86	0·26	2·81	0·25	2·75	0·25	340
350	3·62	0·31	3·55	0·31	3·50	0·30	3·43	0·30	3·37	0·29	3·31	0·29	3·25	0·28	3·19	0·28	3·12	0·27	3·06	0·27	3·00	0·26	350
360	3·93	0·33	3·86	0·33	3·80	0·32	3·73	0·31	3·66	0·31	3·60	0·30	3·53	0·30	3·47	0·29	3·39	0·29	3·33	0·28	3·26	0·28	360
370	4·26	0·35	4·19	0·34	4·12	0·33	4·04	0·34	3·97	0·33	3·90	0·32	3·83	0·31	3·76	0·31	3·68	0·31	3·61	0·30	3·54	0·29	370
380	4·61	0·37	4·53	0·37	4·45	0·36	4·38	0·35	4·30	0·34	4·22	0·34	4·14	0·33	4·07	0·32	3·99	0·31	3·91	0·31	3·83	0·30	380
390	4·98	0·39	4·90	0·38	4·81	0·38	4·73	0·36	4·64	0·36	4·56	0·35	4·47	0·35	4·39	0·34	4·30	0·33	4·22	0·32	4·13	0·32	390
400	5·37	0·41	5·28	0·40	5·19	0·40	5·09	0·39	5·00	0·38	4·91	0·38	4·82	0·37	4·73	0·36	4·63	0·36	4·54	0·35	4·45	0·34	**400**
410	5·78	0·43	5·68	0·42	5·59	0·41	5·48	0·41	5·38	0·41	5·29	0·39	5·19	0·38	5·09	0·38	4·99	0·37	4·89	0·37	4·79	0·36	410
420	6·21	0·44	6·10	0·44	6·00	0·42	5·89	0·42	5·79	0·41	5·68	0·41	5·57	0·40	5·47	0·39	5·36	0·39	5·26	0·37	5·15	0·37	420
430	6·65	0·46	6·54	0·45	6·42	0·45	6·31	0·44	6·20	0·43	6·09	0·42	5·97	0·42	5·86	0·41	5·75	0·40	5·63	0·40	5·52	0·39	430
440	7·11	0·48	6·99	0·47	6·87	0·46	6·75	0·46	6·63	0·45	6·51	0·44	6·39	0·44	6·27	0·42	6·15	0·42	6·03	0·41	5·91	0·40	440
450	7·59	0·51	7·46	0·50	7·33	0·49	7·21	0·48	7·08	0·47	6·95	0·47	6·83	0·45	6·69	0·45	6·57	0·43	6·44	0·43	6·31	0·42	450
460	8·10	0·53	7·96	0·52	7·82	0·52	7·69	0·50	7·55	0·50	7·42	0·48	7·28	0·47	7·14	0·47	7·00	0·46	6·87	0·45	6·73	0·44	460
470	8·63	0·55	8·48	0·55	8·34	0·53	8·19	0·53	8·05	0·51	7·90	0·51	7·75	0·50	7·61	0·49	7·46	0·48	7·32	0·47	7·17	0·46	470
480	9·18	0·57	9·03	0·56	8·87	0·55	8·72	0·54	8·56	0·53	8·41	0·52	8·25	0·52	8·10	0·50	7·94	0·50	7·79	0·48	7·63	0·48	480
490	9·75	0·60	9·59	0·59	9·42	0·58	9·26	0·57	9·09	0·56	8·93	0·55	8·77	0·54	8·60	0·53	8·44	0·52	8·27	0·51	8·11	0·50	490
500	10·35		10·18		10·00		9·83		9·65		9·48		9·31		9·13		8·96		8·78		8·61		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus** $\frac{\varphi}{2}$. *Réduction au sinus* $\frac{\varphi}{2}$.

Dist. 2200—2400.

	2200	Diff.	2220	Diff.	2240	Diff.	2260	Diff.	2280	Diff.	2300	Diff.	2320	Diff.	2340	Diff.	2360	Diff.	2380	Diff.	2400	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
60	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	60
70	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	70
80	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	80
90	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	90
100	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	**100**
110	0·09	0·03	0·09	0·03	0·09	0·03	0·09	0·02	0·09	0·02	0·09	0·02	0·08	0·03	0·08	0·03	0·08	0·02	0·08	0·02	0·08	0·02	110
120	0·12	0·04	0·12	0·04	0·12	0·03	0·11	0·04	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·03	0·10	0·03	0·10	0·03	0·10	0·03	120
130	0·16	0·04	0·16	0·04	0·15	0·04	0·15	0·04	0·14	0·04	0·14	0·04	0·14	0·04	0·14	0·03	0·13	0·04	0·13	0·03	0·13	0·03	130
140	0·20	0·04	0·20	0·04	0·19	0·04	0·19	0·04	0·18	0·04	0·18	0·04	0·18	0·04	0·17	0·04	0·17	0·04	0·16	0·04	0·16	0·04	140
150	0·24	0·05	0·24	0·05	0·23	0·05	0·23	0·05	0·22	0·05	0·22	0·05	0·22	0·04	0·21	0·05	0·21	0·04	0·20	0·05	0·20	0·04	150
160	0·29	0·05	0·29	0·05	0·28	0·05	0·28	0·05	0·27	0·05	0·27	0·05	0·26	0·05	0·26	0·05	0·25	0·05	0·25	0·05	0·24	0·05	160
170	0·34	0·07	0·34	0·06	0·33	0·06	0·33	0·06	0·32	0·06	0·32	0·06	0·31	0·06	0·31	0·05	0·30	0·05	0·30	0·05	0·29	0·05	170
180	0·41	0·07	0·40	0·07	0·39	0·07	0·39	0·07	0·38	0·07	0·38	0·06	0·37	0·06	0·36	0·06	0·35	0·07	0·35	0·06	0·34	0·06	180
190	0·48	0·08	0·47	0·08	0·46	0·08	0·46	0·07	0·45	0·07	0·44	0·08	0·43	0·08	0·42	0·08	0·42	0·07	0·41	0·07	0·40	0·07	190
200	0·56	0·09	0·55	0·09	0·54	0·09	0·53	0·09	0·52	0·09	0·52	0·08	0·51	0·08	0·50	0·08	0·49	0·08	0·48	0·08	0·47	0·08	**200**
210	0·65	0·10	0·64	0·10	0·63	0·10	0·62	0·09	0·61	0·09	0·60	0·09	0·59	0·09	0·58	0·09	0·57	0·08	0·56	0·08	0·55	0·08	210
220	0·75	0·11	0·74	0·11	0·73	0·10	0·71	0·11	0·70	0·10	0·69	0·10	0·68	0·10	0·67	0·09	0·65	0·10	0·64	0·09	0·63	0·09	220
230	0·86	0·11	0·85	0·11	0·83	0·11	0·82	0·11	0·80	0·11	0·79	0·11	0·78	0·10	0·76	0·11	0·75	0·10	0·73	0·11	0·72	0·10	230
240	0·97	0·13	0·96	0·12	0·94	0·13	0·93	0·12	0·91	0·12	0·90	0·12	0·88	0·12	0·87	0·11	0·85	0·11	0·84	0·11	0·82	0·11	240
250	1·10	0·14	1·08	0·14	1·07	0·13	1·05	0·13	1·03	0·13	1·02	0·12	1·00	0·12	0·98	0·12	0·96	0·12	0·95	0·11	0·93	0·11	250
260	1·24	0·15	1·22	0·15	1·20	0·14	1·18	0·14	1·16	0·14	1·14	0·14	1·12	0·13	1·10	0·13	1·08	0·13	1·06	0·12	1·04	0·12	260
270	1·39	0·15	1·37	0·15	1·34	0·15	1·32	0·15	1·30	0·14	1·28	0·14	1·25	0·15	1·23	0·14	1·21	0·14	1·18	0·14	1·16	0·14	270
280	1·54	0·17	1·52	0·16	1·49	0·17	1·47	0·16	1·44	0·16	1·42	0·16	1·40	0·15	1·37	0·15	1·35	0·14	1·32	0·15	1·30	0·14	280
290	1·71	0·18	1·68	0·18	1·66	0·17	1·63	0·17	1·60	0·17	1·58	0·16	1·55	0·16	1·52	0·16	1·49	0·16	1·47	0·15	1·44	0·15	290
300	1·89	0·20	1·86	0·20	1·83	0·19	1·80	0·19	1·77	0·19	1·74	0·19	1·71	0·18	1·68	0·18	1·65	0·17	1·62	0·17	1·59	0·17	**300**
310	2·09	0·21	2·06	0·20	2·02	0·21	1·99	0·20	1·96	0·19	1·93	0·19	1·89	0·19	1·86	0·18	1·82	0·18	1·79	0·18	1·76	0·17	310
320	2·30	0·22	2·26	0·22	2·23	0·21	2·19	0·21	2·15	0·21	2·12	0·20	2·08	0·20	2·04	0·20	2·00	0·20	1·97	0·19	1·93	0·19	320
330	2·52	0·23	2·48	0·23	2·44	0·22	2·40	0·22	2·36	0·22	2·32	0·21	2·28	0·21	2·24	0·20	2·20	0·20	2·16	0·20	2·12	0·19	330
340	2·75	0·25	2·71	0·24	2·66	0·24	2·62	0·24	2·58	0·23	2·53	0·23	2·49	0·22	2·44	0·22	2·40	0·22	2·36	0·21	2·31	0·21	340
350	3·00	0·26	2·95	0·26	2·90	0·26	2·86	0·25	2·81	0·25	2·76	0·25	2·71	0·24	2·66	0·24	2·62	0·23	2·57	0·23	2·52	0·23	350
360	3·26	0·28	3·21	0·27	3·16	0·27	3·11	0·26	3·06	0·26	3·01	0·25	2·95	0·25	2·90	0·25	2·85	0·24	2·80	0·24	2·75	0·23	360
370	3·54	0·29	3·48	0·29	3·43	0·28	3·37	0·28	3·32	0·27	3·26	0·27	3·20	0·26	3·15	0·26	3·09	0·25	3·04	0·25	2·98	0·24	370
380	3·83	0·30	3·77	0·30	3·71	0·29	3·65	0·29	3·59	0·28	3·53	0·28	3·46	0·28	3·41	0·27	3·34	0·27	3·29	0·26	3·22	0·26	380
390	4·13	0·32	4·07	0·32	4·00	0·31	3·94	0·31	3·87	0·30	3·81	0·30	3·74	0·30	3·68	0·29	3·61	0·29	3·55	0·28	3·48	0·28	390
400	4·45	0·34	4·39	0·33	4·31	0·33	4·25	0·32	4·17	0·32	4·11	0·31	4·04	0·30	3·97	0·30	3·90	0·29	3·83	0·29	3·76	0·28	**400**
410	4·79	0·36	4·72	0·35	4·64	0·35	4·57	0·34	4·49	0·34	4·42	0·33	4·34	0·32	4·27	0·31	4·19	0·31	4·12	0·30	4·04	0·30	410
420	5·15	0·37	5·07	0·36	4·99	0·36	4·91	0·35	4·83	0·34	4·75	0·34	4·66	0·34	4·58	0·33	4·50	0·32	4·42	0·32	4·34	0·31	420
430	5·52	0·39	5·43	0·39	5·35	0·37	5·26	0·37	5·17	0·36	5·09	0·36	5·00	0·35	4·91	0·35	4·82	0·34	4·74	0·33	4·65	0·32	430
440	5·91	0·40	5·82	0·40	5·72	0·39	5·63	0·39	5·53	0·38	5·45	0·37	5·35	0·37	5·26	0·36	5·16	0·36	5·07	0·35	4·97	0·35	440
450	6·31	0·42	6·22	0·41	6·11	0·41	6·02	0·40	5·91	0·40	5·82	0·39	5·72	0·38	5·62	0·38	5·52	0·37	5·42	0·37	5·32	0·36	450
460	6·73	0·44	6·63	0·43	6·52	0·43	6·42	0·41	6·31	0·41	6·21	0·41	6·10	0·40	6·00	0·39	5·89	0·39	5·79	0·38	5·68	0·37	460
470	7·17	0·46	7·06	0·45	6·95	0·45	6·83	0·44	6·72	0·43	6·62	0·42	6·50	0·42	6·39	0·41	6·28	0·40	6·17	0·40	6·05	0·39	470
480	7·63	0·48	7·51	0·47	7·40	0·46	7·27	0·46	7·15	0·45	7·04	0·44	6·92	0·44	6·80	0·43	6·68	0·42	6·57	0·41	6·44	0·41	480
490	8·11	0·50	7·98	0·49	7·86	0·48	7·73	0·48	7·60	0·47	7·48	0·46	7·36	0·45	7·23	0·44	7·10	0·44	6·98	0·42	6·85	0·42	490
500	8·61		8·47		8·34		8·21		8·07		7·94		7·81		7·67		7·54		7·40		7·27		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 2400—2600.

	2400	Diff.	2420	Diff.	2440	Diff.	2460	Diff.	2480	Diff.	2500	Diff.	2520	Diff.	2540	Diff.	2560	Diff.	2580	Diff.	2600	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
60	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	60
70	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	70
80	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	80
90	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	90
100	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	**100**
110	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	110
120	0·10	0·03	0·10	0·03	0·10	0·03	0·10	0·02	0·10	0·02	0·10	0·02	0·09	0·03	0·09	0·03	0·09	0·02	0·09	0·02	0·09	0·02	120
130	0·13	0·03	0·13	0·03	0·13	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·03	0·11	0·03	0·11	0·03	0·11	0·03	130
140	0·16	0·04	0·16	0·04	0·16	0·03	0·15	0·04	0·15	0·04	0·15	0·04	0·15	0·03	0·15	0·03	0·14	0·04	0·14	0·03	0·14	0·03	140
150	0·20	0·04	0·20	0·04	0·19	0·04	0·19	0·04	0·19	0·04	0·19	0·04	0·18	0·04	0·18	0·04	0·18	0·04	0·17	0·04	0·17	0·04	150
160	0·24	0·05	0·24	0·05	0·23	0·05	0·23	0·05	0·23	0·04	0·23	0·04	0·22	0·05	0·22	0·04	0·22	0·04	0·21	0·04	0·21	0·04	160
170	0·29	0·05	0·29	0·05	0·28	0·05	0·28	0·05	0·27	0·05	0·27	0·05	0·27	0·05	0·26	0·05	0·26	0·05	0·25	0·05	0·25	0·05	170
180	0·34	0·06	0·34	0·06	0·33	0·06	0·33	0·06	0·32	0·06	0·32	0·06	0·32	0·05	0·31	0·06	0·31	0·05	0·30	0·06	0·30	0·05	180
190	0·40	0·07	0·40	0·06	0·39	0·07	0·39	0·06	0·38	0·07	0·38	0·06	0·37	0·06	0·37	0·06	0·36	0·06	0·36	0·06	0·35	0·06	190
200	0·47	0·08	0·46	0·08	0·46	0·07	0·45	0·07	0·45	0·07	0·44	0·07	0·43	0·07	0·43	0·06	0·42	0·07	0·42	0·06	0·41	0·06	**200**
210	0·55	0·08	0·54	0·08	0·53	0·08	0·52	0·08	0·52	0·07	0·51	0·08	0·50	0·08	0·49	0·08	0·49	0·07	0·48	0·07	0·47	0·07	210
220	0·63	0·09	0·62	0·09	0·61	0·09	0·60	0·09	0·59	0·09	0·59	0·08	0·58	0·08	0·57	0·08	0·56	0·08	0·55	0·08	0·54	0·08	220
230	0·72	0·10	0·71	0·10	0·70	0·10	0·69	0·09	0·68	0·09	0·67	0·09	0·66	0·09	0·65	0·09	0·64	0·08	0·63	0·08	0·62	0·08	230
240	0·82	0·11	0·81	0·11	0·80	0·10	0·78	0·11	0·77	0·10	0·76	0·10	0·75	0·10	0·74	0·09	0·72	0·10	0·71	0·09	0·70	0·09	240
250	0·93	0·11	0·92	0·11	0·90	0·11	0·89	0·11	0·87	0·11	0·86	0·11	0·85	0·10	0·83	0·11	0·82	0·10	0·80	0·11	0·79	0·10	250
260	1·04	0·12	1·03	0·12	1·01	0·12	1·00	0·11	0·98	0·12	0·97	0·11	0·95	0·11	0·94	0·11	0·92	0·11	0·91	0·11	0·89	0·11	260
270	1·16	0·14	1·15	0·13	1·13	0·13	1·11	0·13	1·10	0·12	1·08	0·13	1·06	0·12	1·05	0·12	1·03	0·12	1·02	0·11	1·00	0·11	270
280	1·30	0·14	1·28	0·14	1·26	0·14	1·24	0·14	1·22	0·14	1·21	0·13	1·18	0·13	1·17	0·12	1·15	0·12	1·13	0·12	1·11	0·12	280
290	1·44	0·15	1·42	0·15	1·40	0·14	1·38	0·14	1·36	0·14	1·34	0·14	1·31	0·14	1·29	0·14	1·27	0·14	1·25	0·13	1·23	0·13	290
300	1·59	0·17	1·57	0·16	1·54	0·16	1·52	0·16	1·50	0·16	1·48	0·15	1·45	0·15	1·43	0·15	1·41	0·14	1·38	0·15	1·36	0·14	**300**
310	1·76	0·17	1·73	0·17	1·70	0·17	1·68	0·17	1·66	0·16	1·63	0·16	1·60	0·16	1·58	0·15	1·55	0·16	1·53	0·15	1·50	0·15	310
320	1·93	0·19	1·90	0·19	1·87	0·18	1·85	0·18	1·82	0·17	1·79	0·17	1·76	0·17	1·73	0·17	1·71	0·16	1·68	0·16	1·65	0·16	320
330	2·12	0·19	2·09	0·19	2·05	0·19	2·03	0·18	1·99	0·18	1·96	0·18	1·93	0·18	1·90	0·17	1·87	0·17	1·84	0·16	1·81	0·16	330
340	2·31	0·21	2·28	0·21	2·24	0·21	2·21	0·20	2·17	0·20	2·14	0·20	2·11	0·19	2·07	0·19	2·04	0·18	2·00	0·19	1·97	0·18	340
350	2·52	0·23	2·49	0·22	2·45	0·22	2·41	0·22	2·37	0·21	2·34	0·21	2·30	0·20	2·26	0·20	2·22	0·20	2·19	0·19	2·15	0·19	350
360	2·75	0·23	2·71	0·23	2·67	0·22	2·63	0·22	2·58	0·22	2·55	0·21	2·50	0·22	2·46	0·21	2·42	0·21	2·38	0·20	2·34	0·20	360
370	2·98	0·24	2·94	0·24	2·89	0·24	2·85	0·23	2·80	0·23	2·76	0·23	2·72	0·22	2·67	0·22	2·63	0·22	2·58	0·22	2·54	0·21	370
380	3·22	0·26	3·18	0·25	3·13	0·25	3·08	0·25	3·03	0·25	2·99	0·24	2·94	0·24	2·89	0·24	2·85	0·23	2·80	0·23	2·75	0·23	380
390	3·48	0·28	3·43	0·27	3·38	0·27	3·33	0·26	3·28	0·26	3·23	0·25	3·18	0·25	3·13	0·25	3·08	0·24	3·03	0·24	2·98	0·23	390
400	3·76	0·28	3·70	0·28	3·65	0·27	3·59	0·27	3·54	0·26	3·49	0·26	3·43	0·26	3·38	0·25	3·32	0·25	3·27	0·24	3·21	0·24	**400**
410	4·04	0·30	3·98	0·30	3·92	0·29	3·86	0·29	3·80	0·29	3·75	0·28	3·69	0·27	3·63	0·27	3·57	0·27	3·51	0·26	3·45	0·26	410
420	4·34	0·31	4·28	0·30	4·21	0·31	4·15	0·30	4·09	0·29	4·03	0·29	3·96	0·29	3·90	0·28	3·84	0·27	3·77	0·28	3·71	0·27	420
430	4·65	0·32	4·58	0·32	4·52	0·32	4·45	0·31	4·38	0·31	4·32	0·30	4·25	0·29	4·18	0·29	4·11	0·29	4·05	0·28	3·98	0·28	430
440	4·97	0·35	4·90	0·34	4·84	0·33	4·76	0·33	4·69	0·32	4·62	0·32	4·54	0·32	4·47	0·31	4·40	0·30	4·33	0·30	4·26	0·29	440
450	5·32	0·36	5·24	0·36	5·17	0·35	5·09	0·34	5·01	0·34	4·94	0·33	4·86	0·33	4·78	0·33	4·70	0·32	4·63	0·31	4·55	0·31	450
460	5·68	0·37	5·60	0·37	5·52	0·36	5·43	0·36	5·35	0·35	5·27	0·35	5·19	0·34	5·11	0·33	5·02	0·33	4·94	0·33	4·86	0·32	460
470	6·05	0·39	5·97	0·38	5·88	0·37	5·79	0·37	5·70	0·37	5·62	0·36	5·53	0·36	5·44	0·35	5·35	0·35	5·27	0·34	5·18	0·33	470
480	6·44	0·41	6·35	0·40	6·25	0·40	6·16	0·39	6·07	0·38	5·98	0·38	5·89	0·37	5·79	0·37	5·70	0·36	5·61	0·35	5·51	0·35	480
490	6·85	0·42	6·75	0·42	6·65	0·41	6·55	0·41	6·45	0·40	6·36	0·39	6·26	0·38	6·16	0·38	6·06	0·37	5·96	0·37	5·86	0·36	490
500	7.27		7·17		7·06		6·96		6·85		6·75		6·64		6·54		6·43		6·33		6·22		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 2600—2800.

	2600	Diff.	2620	Diff.	2640	Diff.	2660	Diff.	2680	Diff.
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00
60	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01
70	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01
80	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01
90	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01
100	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02
110	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02
120	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02
130	0·11	0·03	0·11	0·03	0·11	0·03	0·11	0·02	0·11	0·02
140	0·14	0·03	0·14	0·03	0·14	0·03	0·13	0·03	0·13	0·03
150	0·17	0·04	0·17	0·04	0·17	0·03	0·16	0·04	0·16	0·04
160	0·21	0·04	0·21	0·04	0·20	0·04	0·20	0·04	0·20	0·04
170	0·25	0·05	0·25	0·05	0·24	0·05	0·24	0·05	0·24	0·04
180	0·30	0·05	0·30	0·05	0·29	0·05	0·29	0·05	0·28	0·05
190	0·35	0·06	0·35	0·05	0·34	0·06	0·34	0·05	0·33	0·05
200	0·41	0·06	0·40	0·06	0·40	0·06	0·39	0·06	0·38	0·06
210	0·47	0·07	0·46	0·07	0·46	0·06	0·45	0·07	0·44	0·07
220	0·54	0·08	0·53	0·08	0·52	0·08	0·52	0·07	0·51	0·07
230	0·62	0·08	0·61	0·08	0·60	0·08	0·59	0·08	0·58	0·08
240	0·70	0·09	0·69	0·09	0·68	0·09	0·67	0·09	0·66	0·09
250	0·79	0·10	0·78	0·10	0·77	0·10	0·76	0·09	0·75	0·09
260	0·89	0·11	0·88	0·11	0·87	0·10	0·85	0·11	0·84	0·10
270	1·00	0·11	0·99	0·11	0·97	0·11	0·96	0·11	0·94	0·11
280	1·11	0·12	1·10	0·12	1·08	0·12	1·07	0·11	1·05	0·11
290	1·23	0·13	1·22	0·12	1·20	0·12	1·18	0·12	1·16	0·12
300	1·36	0·14	1·34	0·14	1·32	0·14	1·30	0·14	1·28	0·14
310	1·50	0·15	1·48	0·15	1·46	0·14	1·44	0·14	1·42	0·14
320	1·65	0·16	1·63	0·15	1·60	0·16	1·58	0·15	1·56	0·15
330	1·81	0·16	1·78	0·16	1·76	0·16	1·73	0·16	1·71	0·16
340	1·97	0·18	1·94	0·18	1·92	0·17	1·89	0·17	1·87	0·16
350	2·15	0·19	1·12	0·19	1·09	0·19	1·06	0·18	1·03	0·18
360	2·34	0·20	2·31	0·20	2·28	0·19	2·24	0·20	2·21	0·19
370	2·54	0·21	2·51	0·21	2·47	0·21	2·44	0·20	2·40	0·20
380	2·75	0·23	2·72	0·22	2·68	0·22	2·64	0·22	2·60	0·21
390	2·98	0·23	2·94	0·23	2·90	0·22	2·86	0·22	2·81	0·22
400	3·21	0·24	3·17	0·24	3·12	0·24	3·08	0·23	3·03	0·23
410	3·45	0·26	3·41	0·25	3·36	0·25	3·31	0·25	3·26	0·25
420	3·71	0·27	3·66	0·27	3·61	0·26	3·56	0·26	3·51	0·25
430	3·98	0·28	3·93	0·27	3·87	0·27	3·82	0·27	3·76	0·27
440	4·26	0·29	4·20	0·29	4·14	0·29	4·09	0·27	4·03	0·27
450	4·55	0·31	4·49	0·30	4·43	0·30	4·36	0·30	4·30	0·30
460	4·86	0·32	4·79	0·32	4·73	0·31	4·66	0·31	4·60	0·30
470	5·18	0·33	5·11	0·32	5·04	0·32	4·97	0·32	4·90	0·31
480	5·51	0·35	5·43	0·35	5·36	0·34	5·29	0·33	5·21	0·33
490	5·86	0·36	5·78	0·36	5·70	0·35	5·62	0·35	5·54	0·34
500	6·22		6·14		6·05		5·97		5·88	

2700	Diff.	2720	Diff.	2740	Diff.	2760	Diff.	2780	Diff.	2800	Diff.	
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	60
0·02	0·01	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	70
0·03	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	80
0·04	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	90
0·05	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	**100**
0·07	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	110
0·09	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	120
0·11	0·02	0·10	0·03	0·10	0·03	0·10	0·02	0·10	0·02	0·10	0·02	130
0·13	0·03	0·13	0·03	0·13	0·03	0·12	0·03	0·12	0·03	0·12	0·03	140
0·16	0·04	0·16	0·03	0·16	0·03	0·15	0·04	0·15	0·03	0·15	0·03	150
0·20	0·04	0·19	0·04	0·19	0·04	0·19	0·04	0·18	0·04	0·18	0·04	160
0·24	0·04	0·23	0·04	0·23	0·04	0·23	0·04	0·22	0·04	0·22	0·04	170
0·28	0·05	0·27	0·05	0·27	0·05	0·27	0·04	0·26	0·05	0·26	0·04	180
0·33	0·05	0·32	0·05	0·32	0·05	0·31	0·05	0·31	0·05	0·30	0·05	190
0·38	0·06	0·37	0·06	0·37	0·05	0·36	0·05	0·36	0·05	0·35	0·05	**200**
0·44	0·06	0·43	0·06	0·42	0·06	0·41	0·07	0·41	0·06	0·40	0·06	210
0·50	0·07	0·49	0·07	0·48	0·07	0·48	0·07	0·47	0·07	0·46	0·07	220
0·57	0·08	0·56	0·08	0·55	0·08	0·55	0·07	0·54	0·07	0·53	0·07	230
0·65	0·09	0·64	0·08	0·63	0·08	0·62	0·08	0·61	0·08	0·60	0·08	240
0·74	0·09	0·72	0·09	0·71	0·09	0·70	0·09	0·69	0·09	0·68	0·08	250
0·83	0·10	0·81	0·10	0·80	0·10	0·79	0·09	0·78	0·09	0·76	0·09	260
0·93	0·11	0·91	0·11	0·90	0·10	0·88	0·10	0·87	0·10	0·85	0·10	270
1·04	0·11	1·02	0·11	1·00	0·11	0·98	0·11	0·97	0·11	0·95	0·11	280
1·15	0·12	1·13	0·12	1·11	0·12	1·09	0·12	1·08	0·11	1·06	0·11	290
1·27	0·13	1·25	0·12	1·23	0·12	1·21	0·12	1·19	0·12	1·17	0·12	**300**
1·40	0·14	1·37	0·14	1·35	0·14	1·33	0·14	1·31	0·13	1·29	0·13	310
1·54	0·15	1·51	0·15	1·49	0·15	1·47	0·14	1·44	0·15	1·42	0·14	320
1·69	0·15	1·66	0·15	1·64	0·15	1·61	0·15	1·59	0·15	1·56	0·15	330
1·84	0·17	1·81	0·17	1·79	0·16	1·76	0·16	1·74	0·15	1·71	0·15	340
2·01	0·17	1·98	0·17	1·95	0·17	1·92	0·16	1·89	0·16	1·86	0·16	350
2·18	0·19	2·15	0·18	2·12	0·18	2·08	0·18	2·05	0·18	2·02	0·17	360
2·37	0·20	2·33	0·20	2·30	0·19	2·26	0·19	2·23	0·19	2·19	0·19	370
2·57	0·20	2·53	0·20	2·49	0·20	2·45	0·20	2·42	0·19	2·38	0·19	380
2·77	0·22	2·73	0·22	2·69	0·21	2·65	0·21	2·61	0·20	2·57	0·20	390
2·99	0·23	2·95	0·22	2·90	0·22	2·86	0·21	2·81	0·22	2·77	0·21	**400**
3·22	0·24	3·17	0·23	3·12	0·23	3·07	0·23	3·03	0·22	2·98	0·22	410
3·46	0·25	3·40	0·25	3·35	0·25	3·30	0·25	3·25	0·24	3·20	0·24	420
3·71	0·26	3·65	0·26	3·60	0·25	3·55	0·25	3·49	0·25	3·44	0·24	430
3·97	0·27	3·91	0·27	3·85	0·27	3·80	0·25	3·74	0·25	3·68	0·25	440
4·24	0·29	4·18	0·28	4·12	0·28	4·05	0·28	3·99	0·28	3·93	0·27	450
4·53	0·30	4·46	0·30	4·40	0·29	4·33	0·29	4·27	0·28	4·20	0·28	460
4·83	0·31	4·76	0·31	4·69	0·30	4·62	0·30	4·55	0·29	4·48	0·29	470
5·14	0·33	5·07	0·32	4·99	0·32	4·92	0·31	4·84	0·31	4·77	0·30	480
5·47	0·33	5·39	0·33	5·31	0·32	5·23	0·32	5·15	0·31	5·07	0·31	490
5·80		5·72		5·63		5·55		5·46		5·38		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 2800—3000.

	2800	Diff.	2820	Diff.	2840	Diff.	2860	Diff.	2880	Diff.	2900	Diff.	2920	Diff.	2940	Diff.	2960	Diff.	2980	Diff.	3000	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	40
50	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	50
60	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·01	0·01	0·91	0·01	0·01	0·01	0·01	0·01	0·01	0·01	70
80	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	80
90	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	90
100	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0 04	0·02	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	100
110	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·06	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	110
120	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	120
130	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	130
140	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·02	0·12	0·02	0·12	0·02	0·11	0·03	0·11	0·03	0·11	0·02	0·11	0·02	0·11	0·02	140
150	0·15	0·03	0·15	0·03	0·15	0·03	0·14	0·03	0·14	0·03	0·14	0·03	0·14	0·03	0·14	0·03	0·13	0·03	0·13	0·03	0·13	0·03	150
160	0·18	0·04	0·18	0·04	0·18	0·03	0·17	0·04	0·17	0·04	0·17	0·04	0·17	0·03	0·17	0·03	0·16	0·03	0·16	0·03	0·16	0·03	160
170	0·22	0·04	0·22	0·04	0·21	0·04	0·21	0·04	0·21	0·03	0·21	0·03	0·20	0·04	0·20	0·03	0·19	0·04	0·19	0·03	0·19	0·03	170
180	0·26	0·04	0·26	0·04	0·25	0·04	0·25	0·04	0·24	0·04	0·24	0·04	0·24	0·04	0·23	0·04	0·23	0·04	0·22	0·04	0·22	0·04	180
190	0·30	0·05	0·30	0·05	0·29	0·05	0·29	0·05	0·28	0·05	0·28	0·05	0·28	0·04	0·27	0·05	0·27	0·05	0·26	0·05	0·26	0·04	190
200	0·35	0·05	0·35	0·05	0·34	0·05	0·34	0·05	0·33	0·05	0·33	0·05	0·32	0·05	0·32	0·05	0·32	0·05	0·31	0·05	0·30	0·05	200
210	0·40	0·06	0·40	0·06	0·39	0·06	0·39	0·06	0·38	0·06	0·38	0·06	0·37	0·06	0·37	0·05	0·37	0·05	0·36	0·05	0·35	0·05	210
220	0·46	0·07	0·46	0·06	0·45	0·05	0·45	0·06	0·44	0·06	0·44	0·06	0·43	0·06	0·42	0·06	0·42	0·06	0·41	0·06	0·40	0·06	220
230	0·53	0·07	0·52	0·07	0·51	0·07	0·51	0·07	0·50	0·07	0·50	0·07	0·49	0·06	0·48	0·06	0·48	0·06	0·47	0·06	0·46	0·06	230
240	0·60	0·08	0·59	0·08	0·58	0·08	0·58	0·07	0·57	0·07	0·57	0·07	0·55	0·07	0·54	0·07	0·54	0·07	0·53	0·07	0·52	0·07	240
250	0·68	0·08	0·67	0·08	0·66	0·08	0·65	0·08	0·64	0·08	0·64	0·08	0·62	0·08	0·61	0·08	0·61	0·08	0·60	0·07	0·59	0·07	250
260	0·76	0·09	0·75	0·09	0·74	0·09	0·73	0·09	0·72	0·09	0·72	0·08	0·70	0·09	0·69	0·09	0·69	0·08	0·67	0·08	0·66	0·08	260
270	0·85	0·10	0·84	0·10	0·83	0·10	0·82	0·10	0·81	0·10	0·80	0·10	0·79	0·09	0·78	0·09	0·77	0·09	0·75	0·09	0·74	0·09	270
280	0·95	0·11	0·94	0·11	0·93	0·10	0·92	0·10	0·91	0·10	0·90	0·10	0·88	0·10	0·87	0·10	0·86	0·10	0·84	0·10	0·83	0·10	280
290	1·06	0·11	1·05	0·11	1·03	0·11	1·02	0·11	1·01	0·11	1·00	0·10	0·98	0·10	0·97	0·10	0·96	0·10	0·94	0·10	0·93	0·10	290
300	1·17	0·12	1·16	0·11	1·14	0·12	1·13	0·11	1·12	0·11	1·10	0·11	1·08	0·11	1·07	0·11	1·06	0·11	1·04	0·11	1·03	0·10	300
310	1·29	0·13	1·27	0·13	1·26	0·12	1·24	0·13	1·23	0·12	1·21	0·12	1·19	0·12	1·18	0·11	1·17	0·11	1·15	0·11	1·13	0·11	310
320	1·42	0·14	1·40	0·14	1·38	0·14	1·37	0·13	1·35	0·13	1·33	0·13	1·31	0·13	1·29	0·12	1·28	0·12	1·26	0·12	1·24	0·12	320
330	1·56	0·15	1·54	1·15	1·52	0·14	1·50	0·14	1·48	0·14	1·46	0·14	1·44	0·14	1·43	0·13	1·40	0·13	1·38	0·13	1·36	0·13	330
340	1·71	0·15	1·69	1·15	1·66	0·15	1·64	0·15	1·62	0·14	1·60	0·14	1·58	0·14	1·56	0·14	1·53	0·14	1·51	0·14	1·49	0·14	340
350	1·86	0·16	1·84	0·16	1·81	0·16	1·79	0·16	1·76	0·16	1·74	0·16	1·72	0·15	1·70	0·15	1·67	0·15	1·65	0·15	1·63	0·14	350
360	2·02	0·17	2·00	0·17	1·97	0·17	1·95	0·16	1·92	0·16	1·90	0·16	1·87	0·16	1·85	0·15	1·82	0·15	1·80	0·15	1·77	0·15	360
370	2·19	0·19	2·17	0·18	2·14	0·18	2·11	0·18	2·08	0·18	2·06	0·17	2·03	0·16	2·00	0·16	1·97	0·16	1·95	0·15	1·92	0·15	370
380	2·38	0·19	2·35	0·19	2·32	0·18	2·29	0·18	2·26	0·18	2·23	0·18	2·19	0·18	2·16	0·18	2·13	0·18	2·10	0·17	2·07	0·17	380
390	2·57	0·20	2·54	0·20	2·50	0·20	2·47	0·20	2·44	0·19	2·41	0·19	2·37	0·19	2·34	0·18	2·31	0·18	2·27	0·18	2·24	0·18	390
400	2·77	0·21	2·74	0·20	2·70	0·20	2·67	0·20	2·63	0·20	2·60	0·19	2·56	0·19	2·52	0·19	2·49	0·19	2·45	0·19	2·42	0·18	400
410	2·98	0·22	2·94	0·22	2·90	0·22	2·87	0·21	2·83	0·21	2·79	0·21	2·75	0·20	2·71	0·20	2·68	0·19	2·64	0·19	2·60	0·19	410
420	3·20	0·24	3·16	0·23	3·12	0·23	3·08	0·23	3·04	0·22	3·00	0·22	2·95	0·22	2·91	0·22	2·87	0·21	2·83	0·21	2·79	0·21	420
430	3·44	0·24	3·39	0·24	3·35	0·24	3·31	0·23	3·26	0·23	3·22	0·23	3·17	0·23	3·13	0·22	3·08	0·22	3·04	0·22	3·00	0·21	430
440	3·68	0·25	3·63	0·25	3·59	0·24	3·54	0·24	3·49	0·24	3·45	0·24	3·40	0·23	3·35	0·23	3·30	0·23	3·26	0·22	3·21	0·22	440
450	3·93	0·27	3·88	0·27	3·83	0·26	3·78	0·26	3·73	0·26	3·69	0·25	3·63	0·25	3·58	0·25	3·53	0·24	3·48	0·24	3·43	0·24	450
460	4·20	0·28	4·15	0·27	4·09	0·28	4·04	0·27	3·99	0·26	3·94	0·26	3·88	0·26	3·83	0·25	3·77	0·25	3·72	0·25	3·67	0·24	460
470	4·48	0·29	4·42	0·29	4·37	0·28	4·31	0·28	4·25	0·28	4·20	0·27	4·14	0·26	4·08	0·26	4·02	0·26	3·97	0·26	3·91	0·25	470
480	4·77	0·30	4·71	0·30	4·65	0·29	4·59	0·29	4·53	0·28	4·47	0·28	4·40	0·28	4·34	0·28	4·28	0·27	4·23	0·26	4·16	0·26	480
490	5·07	0·31	5·01	0·30	4·94	0·30	4·88	0·29	4·81	0·29	4·75	0·29	4·68	0·29	4·62	0·28	4·55	0·28	4·49	0·27	4·42	0·27	490
500	5·38		5·31		5·24		5·17		5·10		5·04		4·97		4·90		4·83		4·76		4·69		500

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus** $\frac{\varphi}{2}$. *Réduction au sinus* $\frac{\varphi}{2}$.

Dist. 3000—3200.

	3000	Diff.	3020	Diff.	3040	Diff.	3060	Diff.	3080	Diff.	3100	Diff.	
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0**
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30
40	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	40
50	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	50
60	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	60
70	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	70
80	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	80
90	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	90
100	0.04	0.01	0.04	0.01	0.04	0.01	0.04	0.01	0.04	0.01	0.04	0.01	**100**
110	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	0.05	0.02	110
120	0.07	0.02	0.07	0.02	0.07	0.02	0.07	0.01	0.07	0.01	0.07	0.01	120
130	0.09	0.02	0.09	0.02	0.09	0.02	0.08	0.02	0.08	0.02	0.08	0.02	130
140	0.11	0.02	0.11	0.02	0.11	0.02	0.10	0.02	0.10	0.02	0.10	0.02	140
150	0.13	0.03	0.13	0.03	0.13	0.03	0.12	0.03	0.12	0.03	0.12	0.03	150
160	0.16	0.03	0.16	0.03	0.16	0.03	0.15	0.03	0.15	0.03	0.15	0.03	160
170	0.19	0.03	0.19	0.03	0.19	0.03	0.18	0.03	0.18	0.03	0.18	0.03	170
180	0.22	0.04	0.22	0.04	0.22	0.04	0.21	0.04	0.21	0.04	0.21	0.04	180
190	0.26	0.04	0.26	0.04	0.26	0.04	0.25	0.04	0.25	0.04	0.25	0.04	190
200	0.30	0.05	0.30	0.05	0.30	0.04	0.29	0.05	0.29	0.05	0.29	0.05	**200**
210	0.35	0.05	0.35	0.05	0.34	0.05	0.34	0.05	0.34	0.05	0.34	0.05	210
220	0.40	0.06	0.40	0.06	0.39	0.06	0.39	0.06	0.39	0.05	0.39	0.05	220
230	0.46	0.06	0.46	0.06	0.45	0.06	0.45	0.06	0.44	0.06	0.44	0.06	230
240	0.52	0.07	0.52	0.06	0.51	0.07	0.51	0.06	0.50	0.06	0.50	0.06	240
250	0.59	0.07	0.58	0.07	0.58	0.07	0.57	0.07	0.56	0.07	0.56	0.07	250
260	0.66	0.08	0.65	0.08	0.65	0.08	0.64	0.08	0.63	0.08	0.63	0.07	260
270	0.74	0.09	0.73	0.09	0.73	0.08	0.72	0.08	0.71	0.08	0.70	0.08	270
280	0.83	0.10	0.82	0.10	0.81	0.09	0.80	0.09	0.79	0.09	0.78	0.09	280
290	0.93	0.10	0.92	0.10	0.90	0.10	0.89	0.10	0.88	0.09	0.87	0.09	290
300	1.03	0.10	1.02	0.10	1.00	0.10	0.99	0.10	0.97	0.10	0.96	0.10	**300**
310	1.13	0.11	1.12	0.11	1.10	0.11	1.09	0.11	1.07	0.11	1.06	0.11	310
320	1.24	0.12	1.23	0.12	1.21	0.12	1.20	0.12	1.18	0.12	1.17	0.11	320
330	1.36	0.13	1.35	0.12	1.33	0.12	1.32	0.12	1.30	0.12	1.28	0.12	330
340	1.49	0.14	1.47	0.14	1.45	0.13	1.44	0.12	1.42	0.13	1.40	0.13	340
350	1.63	0.14	1.61	0.14	1.58	0.14	1.56	0.14	1.55	0.13	1.53	0.13	350
360	1.77	0.15	1.75	0.15	1.72	0.15	1.70	0.15	1.68	0.14	1.66	0.14	360
370	1.92	0.15	1.90	0.15	1.87	0.16	1.85	0.15	1.82	0.15	1.80	0.15	370
380	2.07	0.17	2.05	0.16	2.03	0.16	2.00	0.16	1.97	0.16	1.95	0.16	380
390	2.24	0.18	2.21	0.18	2.19	0.17	2.16	0.17	2.13	0.17	2.11	0.17	390
400	2.42	0.18	2.39	0.18	2.36	0.18	2.33	0.18	2.30	0.18	2.28	0.17	**400**
410	2.60	0.19	2.57	0.19	2.54	0.19	2.51	0.18	2.48	0.19	2.45	0.18	410
420	2.79	0.21	2.76	0.20	2.73	0.20	2.69	0.20	2.67	0.19	2.63	0.19	420
430	3.00	0.21	2.96	0.21	2.93	0.20	2.89	0.21	2.86	0.20	2.82	0.20	430
440	3.21	0.22	3.17	0.22	3.13	0.22	3.10	0.22	3.06	0.21	3.02	0.21	440
450	3.43	0.24	3.39	0.23	3.35	0.23	3.32	0.22	3.27	0.22	3.23	0.22	450
460	3.67	0.24	3.62	0.24	3.58	0.24	3.54	0.23	3.49	0.23	3.45	0.23	460
470	3.91	0.25	3.86	0.25	3.82	0.24	3.77	0.24	3.72	0.24	3.68	0.23	470
480	4.16	0.26	4.11	0.26	4.06	0.25	4.01	0.25	3.96	0.25	3.91	0.25	480
490	4.42	0.27	4.37	0.27	4.31	0.27	4.26	0.27	4.21	0.26	4.16	0.26	490
500	4.69		4.64		4.58		4.53		4.47		4.42		**500**

	3120	Diff.	3140	Diff.	3160	Diff.	3180	Diff.	3200	Diff.	
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0**
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40
50	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	50
60	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	60
70	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	70
80	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	80
90	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02	0.01	90
100	0.03	0.02	0.03	0.01	0.03	0.01	0.03	0.01	0.03	0.01	**100**
110	0.05	0.01	0.04	0.02	0.04	0.02	0.04	0.02	0.04	0.02	110
120	0.06	0.02	0.06	0.02	0.06	0.01	0.06	0.01	0.06	0.01	120
130	0.08	0.02	0.08	0.02	0.07	0.02	0.07	0.02	0.07	0.02	130
140	0.10	0.02	0.10	0.02	0.09	0.02	0.09	0.02	0.09	0.02	140
150	0.12	0.03	0.12	0.03	0.11	0.03	0.11	0.03	0.11	0.03	150
160	0.15	0.03	0.15	0.03	0.14	0.03	0.14	0.03	0.14	0.03	160
170	0.18	0.03	0.18	0.03	0.17	0.03	0.17	0.03	0.17	0.03	170
180	0.21	0.04	0.21	0.03	0.20	0.04	0.20	0.03	0.20	0.03	180
190	0.25	0.04	0.24	0.04	0.24	0.04	0.23	0.04	0.23	0.04	190
200	0.29	0.04	0.28	0.04	0.28	0.04	0.27	0.04	0.27	0.04	**200**
210	0.33	0.05	0.32	0.05	0.32	0.05	0.31	0.05	0.31	0.05	210
220	0.38	0.05	0.37	0.06	0.37	0.05	0.36	0.06	0.36	0.05	220
230	0.43	0.06	0.43	0.05	0.42	0.05	0.42	0.05	0.41	0.05	230
240	0.49	0.06	0.48	0.06	0.47	0.06	0.47	0.06	0.46	0.06	240
250	0.55	0.07	0.54	0.07	0.53	0.07	0.53	0.06	0.52	0.06	250
260	0.62	0.07	0.61	0.07	0.60	0.07	0.59	0.07	0.58	0.07	260
270	0.69	0.08	0.68	0.08	0.67	0.08	0.66	0.08	0.65	0.08	270
280	0.77	0.09	0.76	0.09	0.75	0.08	0.74	0.08	0.73	0.08	280
290	0.86	0.09	0.85	0.09	0.83	0.09	0.82	0.09	0.81	0.09	290
300	0.95	0.10	0.94	0.09	0.92	0.10	0.91	0.09	0.90	0.09	**300**
310	1.05	0.10	1.03	0.10	1.02	0.10	1.00	0.10	0.99	0.10	310
320	1.15	0.11	1.13	0.11	1.12	0.11	1.10	0.11	1.09	0.10	320
330	1.26	0.12	1.24	0.12	1.23	0.11	1.21	0.11	1.19	0.11	330
340	1.38	0.13	1.36	0.13	1.34	0.12	1.32	0.12	1.30	0.12	340
350	1.51	0.13	1.49	0.13	1.46	0.13	1.44	0.13	1.42	0.13	350
360	1.64	0.14	1.62	0.14	1.59	0.14	1.57	0.14	1.55	0.13	360
370	1.78	0.15	1.76	0.14	1.73	0.14	1.71	0.14	1.68	0.14	370
380	1.93	0.15	1.90	0.15	1.87	0.15	1.85	0.15	1.82	0.15	380
390	2.08	0.16	2.05	0.16	2.02	0.16	2.00	0.15	1.97	0.16	390
400	2.24	0.17	2.21	0.17	2.18	0.17	2.15	0.17	2.13	0.16	**400**
410	2.41	0.18	2.38	0.18	2.35	0.18	2.32	0.17	2.29	0.17	410
420	2.59	0.19	2.56	0.19	2.53	0.18	2.49	0.19	2.46	0.18	420
430	2.78	0.20	2.75	0.19	2.71	0.19	2.68	0.19	2.64	0.19	430
440	2.98	0.20	2.94	0.20	2.90	0.20	2.87	0.19	2.83	0.20	440
450	3.18	0.22	3.14	0.22	3.10	0.21	3.06	0.21	3.03	0.20	450
460	3.40	0.23	3.36	0.22	3.31	0.22	3.27	0.22	3.23	0.21	460
470	3.63	0.23	3.58	0.23	3.53	0.23	3.49	0.22	3.44	0.22	470
480	3.86	0.24	3.81	0.24	3.76	0.24	3.71	0.24	3.66	0.23	480
490	4.10	0.26	4.05	0.26	4.00	0.25	3.95	0.25	3.89	0.25	490
500	4.36		4.31		4.25		4.20		4.14		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus** $\frac{\varphi}{2}$. *Réduction au sinus* $\frac{\varphi}{2}$.

Dist. 3200—3400.

	3200	Diff.	3220	Diff.	3240	Diff.	3260	Diff.	3280	Diff.	3300	Diff.	3320	Diff.	3340	Diff.	3360	Diff.	3380	Diff.	3400	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	70
80	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	80
90	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	90
100	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	**100**
110	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·02	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	110
120	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	120
130	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	130
140	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	140
150	0·11	0·03	0·11	0·03	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·10	0·03	0·10	0·03	0·10	0·02	0·10	0·02	0·10	0·02	150
160	0·14	0·03	0·14	0·03	0·13	0·03	0·13	0·03	0·13	0·03	0·13	0·03	0·13	0·02	0·13	0·02	0·12	0·03	0·12	0·03	0·12	0·03	160
170	0·17	0·03	0·17	0·03	0·16	0·03	0·16	0·03	0·16	0·03	0·16	0·03	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·02	0·15	0·02	170
180	0·20	0·03	0·20	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	180
190	0·23	0·04	0·23	0·04	0·22	0·04	0·22	0·04	0·22	0·04	0·22	0·04	0·21	0·04	0·21	0·04	0·21	0·04	0·20	0·04	0·20	0·04	190
200	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	0·26	0·04	0·26	0·04	0·25	0·04	0·25	0·04	0·25	0·04	0·24	0·04	0·24	0·04	**200**
210	0·31	0·05	0·31	0·05	0·30	0·05	0·30	0·05	0·30	0·04	0·30	0·04	0·29	0·05	0·29	0·04	0·29	0·04	0·28	0·04	0·28	0·04	210
220	0·36	0·05	0·36	0·05	0·35	0·05	0·35	0·05	0·34	0·05	0·34	0·05	0·34	0·04	0·33	0·05	0·33	0·04	0·32	0·05	0·32	0·04	220
230	0·41	0·05	0·41	0·05	0·40	0·05	0·40	0·05	0·39	0·05	0·39	0·05	0·38	0·05	0·38	0·05	0·37	0·05	0·37	0·05	0·36	0·05	230
240	0·46	0·06	0·46	0·05	0·45	0·06	0·45	0·05	0·44	0·06	0·44	0·05	0·43	0·05	0·43	0·05	0·42	0·05	0·42	0·05	0·41	0·05	240
250	0·52	0·06	0·51	0·06	0·51	0·07	0·50	0·06	0·50	0·06	0·49	0·06	0·48	0·06	0·48	0·06	0·47	0·06	0·47	0·06	0·46	0·06	250
260	0·58	0·07	0·57	0·07	0·58	0·06	0·56	0·07	0·56	0·06	0·55	0·07	0·54	0·07	0·54	0·06	0·53	0·06	0·53	0·06	0·52	0·06	260
270	0·65	0·08	0·64	0·08	0·64	0·07	0·63	0·07	0·62	0·07	0·62	0·07	0·61	0·07	0·60	0·07	0·59	0·07	0·59	0·07	0·58	0·07	270
280	0·73	0·08	0·72	0·08	0·71	0·08	0·70	0·08	0·69	0·08	0·69	0·08	0·68	0·08	0·67	0·08	0·66	0·08	0·66	0·07	0·65	0·07	280
290	0·81	0·09	0·80	0·09	0·79	0·09	0·78	0·09	0·77	0·09	0·77	0·08	0·76	0·08	0·75	0·08	0·74	0·08	0·73	0·08	0·72	0·08	290
300	0·90	0·09	0·89	0·09	0·88	0·09	0·87	0·09	0·86	0·09	0·85	0·09	0·84	0·08	0·83	0·08	0·82	0·08	0·81	0·08	0·80	0·08	**300**
310	0·99	0·10	0·98	0·10	0·97	0·09	0·96	0·09	0·95	0·09	0·94	0·09	0·92	0·09	0·91	0·09	0·90	0·09	0·89	0·09	0·88	0·09	310
320	1·09	0·10	1·08	0·10	1·06	0·10	1·05	0·10	1·04	0·10	1·03	0·10	1·01	0·10	1·00	0·10	0·99	0·10	0·98	0·10	0·97	0·09	320
330	1·19	0·11	1·18	0·11	1·16	0·11	1·15	0·11	1·14	0·11	1·13	0·11	1·11	0·11	1·10	0·11	1·09	0·10	1·08	0·10	1·06	0·10	330
340	1·30	0·12	1·29	0·12	1·27	0·12	1·26	0·12	1·25	0·11	1·24	0·11	1·22	0·11	1·21	0·11	1·19	0·11	1·18	0·11	1·16	0·11	340
350	1·42	0·13	1·41	0·12	1·39	0·13	1·38	0·12	1·36	0·12	1·35	0·12	1·33	0·12	1·32	0·11	1·30	0·11	1·29	0·11	1·27	0·11	350
360	1·55	0·13	1·53	0·13	1·52	0·13	1·50	0·13	1·48	0·13	1·47	0·12	1·45	0·12	1·43	0·12	1·41	0·12	1·40	0·12	1·38	0·12	360
370	1·68	0·14	1·66	0·14	1·65	0·14	1·63	0·13	1·61	0·13	1·59	0·13	1·57	0·13	1·55	0·13	1·53	0·13	1·52	0·12	1·50	0·12	370
380	1·82	0·15	1·80	0·15	1·79	0·14	1·76	0·14	1·74	0·14	1·72	0·14	1·70	0·14	1·68	0·14	1·66	0·13	1·64	0·13	1·62	0·13	380
390	1·97	0·16	1·95	0·15	1·93	0·15	1·90	0·15	1·88	0·15	1·86	0·15	1·84	0·14	1·82	0·14	1·79	0·14	1·77	0·14	1·75	0·14	390
400	2·13	0·16	2·10	0·16	2·08	0·16	2·05	0·16	2·03	0·16	2·01	0·15	1·98	0·15	1·96	0·15	1·93	0·15	1·91	0·15	1·89	0·14	**400**
410	2·29	0·17	2·26	0·17	2·24	0·16	2·21	0·17	2·19	0·16	2·16	0·16	2·13	0·16	2·11	0·16	2·08	0·16	2·06	0·15	2·03	0·15	410
420	2·46	0·18	2·43	0·18	2·40	0·18	2·38	0·17	2·35	0·17	2·32	0·17	2·29	0·17	2·27	0·16	2·24	0·16	2·21	0·16	2·18	0·16	420
430	2·64	0·19	2·61	0·19	2·58	0·18	2·55	0·18	2·52	0·18	2·49	0·18	2·46	0·18	2·43	0·17	2·40	0·17	2·37	0·17	2·34	0·17	430
440	2·83	0·20	2·80	0·19	2·76	0·19	2·73	0·19	2·70	0·18	2·67	0·19	2·64	0·18	2·60	0·18	2·57	0·18	2·54	0·18	2·51	0·17	440
450	3·03	0·20	2·99	0·20	2·95	0·20	2·92	0·20	2·88	0·20	2·86	0·19	2·82	0·19	2·78	0·19	2·75	0·19	2·72	0·18	2·68	0·18	450
460	3·23	0·21	3·19	0·21	3·15	0·21	3·12	0·20	3·08	0·20	3·05	0·20	3·01	0·20	2·97	0·20	2·94	0·19	2·90	0·19	2·86	0·19	460
470	3·44	0·22	3·40	0·22	3·36	0·22	3·32	0·22	3·28	0·22	3·25	0·21	3·21	0·20	3·17	0·21	3·13	0·20	3·09	0·20	3·05	0·20	470
480	3·66	0·23	3·62	0·23	3·58	0·23	3·54	0·22	3·50	0·22	3·46	0·22	3·41	0·22	3·38	0·21	3·33	0·21	3·29	0·21	3·25	0·21	480
490	3·89	0·25	3·85	0·24	3·81	0·24	3·76	0·24	3·72	0·23	3·68	0·23	3·63	0·23	3·59	0·22	3·54	0·22	3·50	0·22	3·46	0·21	490
500	4·14		4·09		4·05		4·00		3·95		3·91		3·86		3·81		3·76		3·72		3·67		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 3400—3600.

	3400	Diff.	3420	Diff.	3440	Diff.	3460	Diff.	3480	Diff.	3500	Diff.	3520	Diff.	3540	Diff.	3560	Diff.	3580	Diff.	3600	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
80	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	80
90	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	90
100	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	**100**
110	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	110
120	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	120
130	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	130
140	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	140
150	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	150
160	0·12	0·03	0·12	0·03	0·12	0·03	0·12	0·02	0·12	0·02	0·12	0·02	0·11	0·03	0·11	0·03	0·11	0·02	0·11	0·02	0·11	0·02	160
170	0·15	0·02	0·15	0·02	0·15	0·02	0·14	0·03	0·14	0·03	0·14	0·03	0·14	0·02	0·14	0·02	0·13	0·03	0·13	0·03	0·13	0·03	170
180	0·17	0·03	0·17	0·03	0·17	0·03	0·17	0·03	0·17	0·03	0·17	0·03	0·16	0·03	0·16	0·03	0·16	0·03	0·16	0·02	0·16	0·02	180
190	0·20	0·04	0·20	0·04	0·20	0·03	0·20	0·03	0·20	0·03	0·20	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·18	0·03	0·18	0·03	190
200	0·24	0·04	0·24	0·04	0·23	0·04	0·23	0·04	0·23	0·03	0·23	0·03	0·22	0·04	0·22	0·03	0·22	0·03	0·21	0·03	0·21	0·03	**200**
210	0·28	0·04	0·28	0·04	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	0·26	0·04	0·25	0·04	0·25	0·04	0·24	0·04	0·24	0·04	210
220	0·32	0·04	0·32	0·04	0·31	0·04	0·31	0·04	0·30	0·04	0·30	0·04	0·30	0·04	0·29	0·04	0·29	0·04	0·28	0·04	0·28	0·04	220
230	0·36	0·05	0·36	0·05	0·35	0·05	0·35	0·05	0·34	0·05	0·34	0·05	0·34	0·04	0·33	0·05	0·33	0·04	0·32	0·05	0·32	0·04	230
240	0·41	0·05	0·41	0·05	0·40	0·05	0·40	0·05	0·39	0·05	0·39	0·05	0·38	0·05	0·38	0·05	0·37	0·05	0·37	0·05	0·36	0·05	240
250	0·46	0·06	0·46	0·05	0·45	0·06	0·45	0·05	0·44	0·06	0·44	0·05	0·43	0·05	0·43	0·05	0·42	0·05	0·42	0·05	0·41	0·05	250
260	0·52	0·06	0·51	0·06	0·51	0·06	0·50	0·06	0·50	0·06	0·49	0·06	0·48	0·06	0·48	0·06	0·47	0·06	0·47	0·06	0·46	0·06	260
270	0·58	0·07	0·57	0·07	0·57	0·06	0·56	0·07	0·56	0·06	0·55	0·06	0·54	0·07	0·54	0·06	0·53	0·06	0·53	0·06	0·52	0·06	270
280	0·65	0·07	0·64	0·07	0·63	0·07	0·63	0·07	0·62	0·07	0·61	0·07	0·61	0·07	0·60	0·07	0·59	0·07	0·59	0·06	0·58	0·06	280
290	0·72	0·08	0·71	0·08	0·70	0·08	0·70	0·07	0·69	0·07	0·68	0·08	0·68	0·07	0·67	0·07	0·66	0·07	0·65	0·07	0·64	0·07	290
300	0·80	0·08	0·79	0·08	0·78	0·08	0·77	0·08	0·76	0·08	0·76	0·08	0·75	0·08	0·74	0·08	0·73	0·07	0·72	0·08	0·71	0·08	**300**
310	0·88	0·09	0·87	0·09	0·86	0·09	0·85	0·08	0·84	0·08	0·84	0·08	0·83	0·08	0·82	0·08	0·80	0·08	0·80	0·07	0·79	0·07	310
320	0·97	0·09	0·96	0·09	0·95	0·09	0·93	0·09	0·92	0·09	0·92	0·09	0·91	0·08	0·90	0·08	0·88	0·09	0·87	0·08	0·86	0·08	320
330	1·06	0·10	1·05	0·10	1·04	0·10	1·02	0·10	1·01	0·10	1·01	0·09	0·99	0·09	0·98	0·09	0·97	0·09	0·95	0·09	0·94	0·09	330
340	1·16	0·11	1·15	0·11	1·14	0·10	1·12	0·11	1·11	0·10	1·10	0·10	1·08	0·10	1·07	0·10	1·06	0·10	1·04	0·10	1·03	0·10	340
350	1·27	0·11	1·26	0·11	1·24	0·11	1·23	0·11	1·21	0·11	1·20	0·11	1·18	0·11	1·17	0·11	1·16	0·10	1·14	0·11	1·13	0·10	350
360	1·38	0·12	1·37	0·11	1·35	0·11	1·34	0·11	1·32	0·11	1·31	0·11	1·29	0·11	1·28	0·10	1·26	0·11	1·25	0·10	1·23	0·10	360
370	1·50	0·12	1·48	0·12	1·46	0·12	1·45	0·12	1·43	0·12	1·42	0·12	1·40	0·11	1·38	0·11	1·37	0·11	1·35	0·11	1·33	0·11	370
380	1·62	0·13	1·60	0·13	1·58	0·13	1·57	0·12	1·55	0·12	1·54	0·12	1·51	0·12	1·49	0·12	1·48	0·12	1·46	0·12	1·44	0·12	380
390	1·75	0·14	1·73	0·14	1·71	0·14	1·69	0·13	1·67	0·13	1·66	0·13	1·63	0·13	1·61	0·13	1·60	0·12	1·58	0·12	1·56	0·12	390
400	1·89	0·14	1·87	0·14	1·85	0·14	1·82	0·14	1·80	0·14	1·79	0·14	1·76	0·14	1·74	0·14	1·72	0·13	1·70	0·13	1·68	0·13	**400**
410	2·03	0·15	2·01	0·15	1·99	0·15	1·96	0·15	1·94	0·15	1·93	0·14	1·90	0·14	1·88	0·14	1·85	0·14	1·83	0·14	1·81	0·14	410
420	2·18	0·16	2·16	0·16	2·14	0·15	2·11	0·16	2·09	0·15	2·07	0·15	2·04	0·15	2·02	0·15	1·99	0·15	1·97	0·15	1·95	0·14	420
430	2·34	0·17	2·32	0·16	2·29	0·16	2·27	0·16	2·24	0·16	2·22	0·16	2·19	0·16	2·17	0·15	2·14	0·15	2·12	0·15	2·09	0·15	430
440	2·51	0·17	2·48	0·17	2·45	0·17	2·43	0·17	2·40	0·17	2·38	0·16	2·35	0·16	2·32	0·16	2·29	0·16	2·27	0·16	2·24	0·16	440
450	2·68	0·18	2·65	0·18	2·62	0·18	2·60	0·17	2·57	0·17	2·54	0·17	2·51	0·17	2·48	0·17	2·45	0·17	2·43	0·16	2·40	0·16	450
460	2·86	0·19	2·83	0·19	2·80	0·19	2·77	0·18	2·74	0·18	2·71	0·18	2·68	0·18	2·65	0·18	2·62	0·17	2·59	0·17	2·56	0·17	460
470	3·05	0·20	3·02	0·20	2·99	0·19	2·95	0·20	2·92	0·19	2·89	0·19	2·86	0·19	2·83	0·18	2·79	0·18	2·76	0·18	2·73	0·17	470
480	3·25	0·21	3·22	0·20	3·18	0·20	3·15	0·20	3·11	0·20	3·08	0·20	3·05	0·19	3·01	0·19	2·97	0·19	2·94	0·19	2·90	0·19	480
490	3·46	0·21	3·42	0·21	3·38	0·21	3·35	0·21	3·31	0·21	3·28	0·20	3·24	0·20	3·20	0·20	3·16	0·20	3·13	0·20	3·09	0·20	490
500	3·67		3·63		3·59		3·56		3·52		3·48		3·44		3·40		3·36		3·33		3·29		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus** $\frac{\varphi}{2}$. *Réduction au sinus* $\frac{\varphi}{2}$.

Dist. 3600—3800.

	3600	Diff.	3620	Diff.	3640	Diff.	3660	Diff.	3680	Diff.	3700	Diff.	3720	Diff.	3740	Diff.	3760	Diff.	3780	Diff.	3800	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
80	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	80
90	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	90
100	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**100**
110	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	110
120	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	120
130	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	130
140	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0 07	0·02	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	140
150	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	150
160	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	160
170	0·13	0·03	0·13	0·03	0·13	0·03	0·13	0·02	0·13	0·02	0·13	0·02	0·12	0·03	0·12	0·03	0·12	0·02	0·12	0·02	0·12	0·02	170
180	0·16	0·02	0·16	0·02	0·16	0·02	0·15	0·03	0·15	0·03	0·15	0·03	0·15	0·02	0·15	0·02	0·14	0·03	0·14	0·03	0·14	0·03	180
190	0·18	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	0·17	0·03	0·17	0·03	0·17	0·03	190
200	0·21	0·03	0·21	0·03	0·21	0·03	0·21	0·03	0·21	0·03	0·21	0·03	0·20	0·03	0·20	0·03	0·20	0·03	0·20	0·03	0·20	0·03	**200**
210	0·24	0·04	0·24	0·04	0·24	0·04	0·24	0·03	0·24	0·03	0·24	0·03	0·23	0·04	0·23	0·04	0·23	0·03	0·23	0·03	0·23	0·03	210
220	0·28	0·04	0·28	0·04	0·28	0·04	0·27	0·04	0·27	0·04	0·27	0·04	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	0·26	0·04	220
230	0·32	0·04	0·32	0·04	0·32	0·04	0·31	0·04	0·31	0·04	0·31	0·04	0·31	0·04	0·31	0·04	0·30	0·04	0·30	0·03	0·30	0·03	230
240	0·36	0·05	0·36	0·05	0·36	0·04	0·35	0·05	0·35	0·04	0·35	0·04	0·35	0·04	0·35	0·04	0·34	0·04	0·33	0·04	0·33	0·04	240
250	0·41	0·05	0·41	0·05	0·40	0·05	0·40	0·05	0·39	0·05	0·39	0·05	0·39	0·05	0·39	0·05	0·38	0·04	0·37	0·05	0·37	0·04	250
260	0·46	0·06	0·46	0·06	0·45	0·06	0·45	0·06	0·44	0·06	0·44	0·06	0·44	0·05	0·44	0·05	0·42	0·05	0·42	0·06	0·41	0·05	260
270	0·52	0·06	0·52	0·05	0·51	0·06	0·51	0·05	0·50	0·06	0·50	0·05	0·49	0·05	0·49	0·05	0·47	0·06	0·48	0·05	0·46	0·06	270
280	0·58	0·06	0·57	0·06	0·57	0·06	0·56	0·06	0·56	0·06	0·55	0·06	0·54	0·06	0·54	0·06	0·53	0·06	0·53	0·06	0·52	0·06	280
290	0·64	0·07	0·63	0·07	0·63	0·07	0·62	0·07	0·62	0·06	0·61	0·07	0·60	0·07	0·60	0·06	0·59	0·06	0·59	0·06	0·58	0·06	290
300	0·71	0·08	0·70	0·08	0·70	0·07	0·69	0·07	0·68	0·07	0·68	0·07	0·67	0·07	0·66	0·07	0·65	0·07	0·65	0·07	0·64	0·07	**300**
310	0·79	0·07	0·78	0·07	0·77	0·07	0·76	0·07	0·75	0·07	0·75	0·07	0·74	0·07	0·73	0·07	0·72	0·08	0·72	0·07	0·71	0·07	310
320	0·86	0·08	0·85	0·08	0·84	0·08	0·83	0·08	0·82	0·08	0·82	0·08	0·81	0·08	0·80	0·08	0·80	0·07	0·79	0·07	0·78	0·07	320
330	0·94	0·09	0·93	0·09	0·92	0·09	0·91	0·09	0·90	0·09	0·90	0·08	0·89	0·08	0·88	0·08	0·87	0·08	0·86	0·08	0·85	0·08	330
340	1·03	0·10	1·02	0·10	1·01	0·10	1·00	0·09	0·99	0·09	0·98	0·09	0·97	0·09	0·96	0·09	0·95	0·08	0·94	0·08	0·93	0·08	340
350	1·13	0·10	1·12	0·10	1·11	0·09	1·09	0·10	1·08	0·09	1·07	0·09	1·06	0·09	1·05	0·09	1·03	0·09	1·02	0·09	1·01	0·09	350
360	1·23	0·10	1·22	0·10	1·20	0·10	1·19	0·10	1·17	0·10	1·16	0·10	1·15	0·10	1·14	0·10	1·12	0·10	1·11	0·10	1·10	0·09	360
370	1·33	0·11	1·32	0·11	1·30	0·11	1·29	0·11	1·27	0·11	1·26	0·11	1·25	0·10	1·24	0·10	1·22	0·10	1·21	0·10	1·19	0·10	370
380	1·44	0·12	1·43	0·11	1·41	0·12	1·40	0·11	1·38	0·11	1·37	0·11	1·35	0·11	1·34	0·11	1·32	0·11	1·31	0·11	1·29	0·11	380
390	1·56	0·12	1·54	0·12	1·53	0·12	1·51	0·12	1·49	0·12	1·48	0·12	1·46	0·12	1·45	0·11	1·43	0·11	1·42	0·11	1·40	0·11	390
400	1·68	0·13	1·66	0·13	1·65	0·13	1·63	0·13	1·61	0·13	1·60	0·12	1·58	0·12	1·56	0·12	1·54	0·12	1·53	0·12	1·51	0·12	**400**
410	1·81	0·14	1·79	0·14	1·78	0·13	1·76	0·13	1·74	0·13	1·72	0·13	1·70	0·13	1·68	0·13	1·66	0·13	1·65	0·12	1·63	0·12	410
420	1·95	0·14	1·93	0·14	1·91	0·14	1·89	0·14	1·87	0·14	1·85	0·14	1·83	0·13	1·81	0·13	1·79	0·13	1·77	0·13	1·75	0·13	420
430	2·09	0·15	2·07	0·15	2·05	0·15	2·03	0·14	2·01	0·14	1·99	0·14	1·96	0·14	1·94	0·14	1·92	0·14	1·90	0·13	1·88	0·13	430
440	2·24	0·16	2·22	0·16	2·20	0·15	2·17	0·15	2·15	0·15	2·13	0·15	2·10	0·15	2·08	0·15	2·06	0·14	2·03	0·15	2·01	0·14	440
450	2·40	0·16	2·38	0·15	2·35	0·16	2·32	0·16	2·30	0·16	2·28	0·15	2·25	0·15	2·23	0·15	2·20	0·15	2·18	0·15	2·15	0·15	450
460	2·56	0·17	2·53	0·17	2·51	0·16	2·48	0·16	2·46	0·16	2·43	0·16	2·40	0·16	2·38	0·16	2·35	0·16	2·33	0·15	2·30	0·15	460
470	2·73	0·17	2·70	0·17	2·67	0·17	2·64	0·17	2·62	0·16	2·59	0·17	2·56	0·17	2·54	0·16	2·51	0·16	2·48	0·16	2·45	0·16	470
480	2·90	0·19	2·87	0·19	2·84	0·19	2·81	0·18	2·78	0·18	2·76	0·18	2·73	0·17	2·70	0·17	2·67	0·17	2·64	0·17	2·61	0·16	480
490	3·09	0·20	3·06	0·20	3·03	0·19	2·99	0·20	2·96	0·19	2·94	0·18	2·90	0·18	2·87	0·18	2·84	0·17	2·81	0·17	2·77	0·11	490
500	3·29		3·26		3·22		3·19		3·15		3·12		3·08		3·05		3·01		2·98		2·94		**500**

Reduction to the sinus $\frac{\varphi}{2}$. **Reduction auf den Sinus $\frac{\varphi}{2}$.** *Réduction au sinus $\frac{\varphi}{2}$.*

Dist. 3800—4000.

	3800	Diff.	3820	Diff.	3840	Diff.	3860	Diff.	3880	Diff.	3900	Diff.	3920	Diff.	3940	Diff.	3960	Diff.	3980	Diff.	4000	Diff.	
0	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	**0**
10	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	10
20	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	20
30	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	30
40	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	0·00	40
50	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	50
60	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	60
70	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	0·01	0·00	70
80	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	80
90	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	0·02	0·00	90
100	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	0·02	0·01	**100**
110	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	0·03	0·01	110
120	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	0·04	0·01	120
130	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·02	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	0·05	0·01	130
140	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·07	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	0·06	0·01	140
150	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·08	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	0·07	0·02	150
160	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·10	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	0·09	0·02	160
170	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·12	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	0·11	0·02	170
180	0·14	0·03	0·14	0·03	0·14	0·03	0·14	0·02	0·14	0·02	0·14	0·02	0·13	0·03	0·13	0·03	0·13	0·02	0·13	0·02	0·13	0·02	180
190	0·17	0·03	0·17	0·03	0·17	0·02	0·16	0·03	0·16	0·03	0·16	0·03	0·16	0·02	0·16	0·02	0·15	0·03	0·15	0·02	0·15	0·02	190
200	0·20	0·03	0·20	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·19	0·03	0·18	0·03	0·18	0·03	0·18	0·03	0·17	0·03	0·17	0·03	**200**
210	0·23	0·03	0·23	0·03	0·22	0·03	0·22	0·03	0·22	0·03	0·22	0·03	0·21	0·03	0·21	0·03	0·21	0·03	0·20	0·03	0·20	0·03	210
220	0·26	0·04	0·26	0·04	0·25	0·04	0·25	0·04	0·25	0·03	0·25	0·03	0·24	0·04	0·24	0·03	0·24	0·03	0·23	0·03	0·23	0·03	220
230	0·30	0·03	0·30	0·03	0·29	0·03	0·29	0·03	0·28	0·04	0·28	0·04	0·28	0·03	0·27	0·04	0·27	0·04	0·26	0·04	0·26	0·04	230
240	0·33	0·04	0·33	0·04	0·32	0·04	0·32	0·04	0·32	0·04	0·32	0·04	0·31	0·04	0·31	0·04	0·31	0·04	0·30	0·04	0·30	0·04	240
250	0·37	0·04	0·37	0·04	0·36	0·04	0·36	0·04	0·36	0·04	0·36	0·04	0·35	0·04	0·35	0·04	0·35	0·04	0·34	0·04	0·34	0·04	250
260	0·41	0·05	0·41	0·05	0·40	0·05	0·40	0·05	0·40	0·05	0·40	0·05	0·39	0·05	0·39	0·05	0·39	0·04	0·38	0·05	0·38	0·04	260
270	0·46	0·06	0·46	0·06	0·45	0·06	0·45	0·06	0·45	0·05	0·45	0·05	0·44	0·05	0·44	0·05	0·43	0·05	0·43	0·05	0·42	0·05	270
280	0·52	0·06	0·52	0·06	0·51	0·06	0·51	0·05	0·50	0·06	0·50	0·05	0·49	0·05	0·49	0·05	0·48	0·05	0·48	0·05	0·47	0·05	280
290	0·58	0·06	0·58	0·06	0·57	0·05	0·56	0·06	0·56	0·06	0·55	0·06	0·54	0·06	0·54	0·06	0·53	0·06	0·53	0·06	0·52	0·06	290
300	0·64	0·07	0·64	0·06	0·63	0·06	0·62	0·07	0·62	0·06	0·61	0·06	0·60	0·06	0·60	0·06	0·59	0·06	0·59	0·06	0·58	0·06	**300**
310	0·71	0·07	0·70	0·07	0·69	0·07	0·69	0·07	0·68	0·07	0·67	0·07	0·66	0·07	0·66	0·07	0·65	0·07	0·65	0·07	0·64	0·07	310
320	0·78	0·07	0·77	0·07	0·76	0·07	0·76	0·07	0·75	0·07	0·74	0·07	0·73	0·07	0·73	0·07	0·72	0·07	0·72	0·06	0·71	0·06	320
330	0·85	0·08	0·84	0·08	0·83	0·08	0·83	0·07	0·82	0·07	0·81	0·08	0·80	0·08	0·80	0·07	0·79	0·07	0·78	0·07	0·77	0·07	330
340	0·93	0·08	0·92	0·08	0·91	0·08	0·90	0·08	0·89	0·08	0·89	0·08	0·88	0·08	0·87	0·08	0·86	0·08	0·85	0·08	0·84	0·08	340
350	1·01	0·09	1·00	0·09	0·99	0·09	0·98	0·09	0·97	0·09	0·97	0·08	0·96	0·08	0·95	0·08	0·94	0·08	0·93	0·08	0·92	0·08	350
360	1·10	0·09	1·09	0·09	1·08	0·09	1·07	0·09	1·06	0·09	1·05	0·09	1·04	0·09	1·03	0·09	1·02	0·09	1·01	0·09	1·00	0·09	360
370	1·19	0·10	1·18	0·10	1·17	0·10	1·16	0·10	1·15	0·09	1·14	0·09	1·13	0·09	1·12	0·09	1·11	0·09	1·10	0·08	1·09	0·08	370
380	1·29	0·11	1·28	0·11	1·27	0·10	1·26	0·10	1·24	0·10	1·23	0·10	1·22	0·10	1·21	0·10	1·20	0·09	1·18	0·09	1·17	0·09	380
390	1·40	0·11	1·39	0·11	1·37	0·11	1·36	0·11	1·34	0·11	1·33	0·11	1·32	0·10	1·31	0·10	1·29	0·10	1·27	0·11	1·26	0·10	390
400	1·51	0·12	1·50	0·11	1·48	0·12	1·47	0·11	1·45	0·12	1·44	0·11	1·42	0·11	1·41	0·11	1·39	0·11	1·38	0·11	1·36	0·11	**400**
410	1·63	0·12	1·61	0·12	1·60	0·12	1·58	0·12	1·57	0·11	1·55	0·12	1·53	0·12	1·52	0·11	1·50	0·11	1·49	0·11	1·47	0·11	410
420	1·75	0·13	1·73	0·13	1·72	0·12	1·70	0·12	1·68	0·12	1·67	0·12	1·65	0·12	1·63	0·12	1·61	0·12	1·60	0·12	1·58	0·11	420
430	1·88	0·13	1·86	0·13	1·84	0·13	1·82	0·13	1·80	0·13	1·79	0·13	1·77	0·13	1·75	0·13	1·73	0·12	1·72	0·12	1·69	0·12	430
440	2·01	0·14	1·99	0·14	1·97	0·14	1·95	0·14	1·93	0·14	1·92	0·13	1·90	0·13	1·88	0·13	1·85	0·13	1·84	0·12	1·81	0·13	440
450	2·15	0·15	2·13	0·15	2·11	0·14	2·09	0·14	2·07	0·14	2·05	0·14	2·03	0·14	2·01	0·13	1·98	0·14	1·96	0·13	1·94	0·13	450
460	2·30	0·15	2·28	0·15	2·25	0·15	2·23	0·15	2·21	0·15	2·19	0·15	2·17	0·14	2·14	0·14	2·12	0·14	2·09	0·14	2·07	0·14	460
470	2·45	0·16	2·43	0·15	2·40	0·16	2·38	0·15	2·36	0·15	2·34	0·15	2·31	0·15	2·28	0·15	2·26	0·15	2·23	0·15	2·21	0·15	470
480	2·61	0·16	2·58	0·16	2·56	0·16	2·53	0·16	2·51	0·16	2·49	0·15	2·46	0·15	2·43	0·16	2·41	0·15	2·38	0·16	2·36	0·15	480
490	2·77	0·17	2·74	0·17	2·72	0·16	2·69	0·17	2·67	0·16	2·64	0·16	2·61	0·16	2·59	0·15	2·56	0·16	2·54	0·15	2·51	0·15	490
500	2·94		2·91		2·88		2·86		2·83		2·80		2·77		2·74		2·72		2·69		2·66		**500**

Winkel φ in Graden.

The angle φ in degrees.

L'angle φ en degrés.

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 1000—1100.

	1000	Diff.	1010	Diff.	1020	Diff.	1030	Diff.	1040	Diff.	1050	Diff.	1060	Diff.	1070	Diff.	1080	Diff.	1090	Diff.	1100	Diff.
0	0° 0'0	17'2	0° 0'0	17'0	0° 0'0	16'9	0° 0'0	16'7	0° 0'0	16'6	0° 0'0	16'4	0° 0'0	16'3	0° 0'0	16'1	0° 0'0	15'9	0° 0'0	15'8	0° 0'0	15'6
10	0° 17'2	17'2	0° 17'0	17'1	0° 16'9	16'9	0° 16'7	16'7	0° 16'6	16'5	0° 16'4	16'4	0° 16'3	16'2	0° 16'1	16'1	0° 15'9	16'0	0° 15'8	15'8	0° 15'6	15'7
20	0° 34'4	17'2	0° 34'1	17'0	0° 33'8	16'8	0° 33'4	16'7	0° 33'1	16'6	0° 32'8	16'4	0° 32'5	16'3	0° 32'2	16'1	0° 31'9	15'9	0° 31'6	15'7	0° 31'3	15'6
30	0° 51'6	17'2	0° 51'1	17'0	0° 50'6	16'9	0° 50'1	16'7	0° 49'7	16'5	0° 49'2	16'4	0° 48'8	16'2	0° 48'3	16'1	0° 47'8	15'9	0° 47'3	15'8	0° 46'9	15'6
40	1° 8'8	17'1	1° 8'1	17'0	1° 7'5	16'8	1° 6'8	16'7	1° 6'2	16'6	1° 5'6	16'4	1° 5'0	16'2	1° 4'4	16'0	1° 3'7	15'9	1° 3'1	15'8	1° 2'5	15'6
50	1° 25'9	17'1	1° 25'1	17'0	1° 24'3	16'8	1° 23'5	16'7	1° 22'8	16'5	1° 22'0	16'3	1° 21'2	16'2	1° 20'4	16'1	1° 19'6	15'9	1° 18'9	15'7	1° 18'1	15'6
60	1° 43'0	17'1	1° 42'1	16'9	1° 41'1	16'8	1° 40'2	16'7	1° 39'3	16'5	1° 38'3	16'4	1° 37'4	16'2	1° 36'5	16'0	1° 35'5	15'9	1° 34'6	15'7	1° 33'7	15'6
70	2° 0'1	17'1	1° 59'0	17'0	1° 57'9	16'8	1° 56'9	16'6	1° 55'8	16'5	1° 54'7	16'3	1° 53'6	16'2	1° 52'5	16'0	1° 51'4	15'9	1° 50'3	15'7	1° 49'3	15'5
80	2° 17'2	17'1	2° 16'0	16'9	2° 14'7	16'8	2° 13'5	16'6	2° 12'3	16'4	2° 11'0	16'3	2° 9'8	16'1	2° 8'5	16'0	2° 7'3	15'8	2° 6'0	15'7	2° 4'8	15'5
90	2° 34'3	17'0	2° 32'9	16'9	2° 31'5	16'7	2° 30'1	16'6	2° 28'7	16'4	2° 27'3	16'3	2° 25'9	16'1	2° 24'5	15'0	2° 23'1	15'8	2° 21'7	15'7	2° 20'3	15'5
100	2° 51'3	17'0	2° 49'8	16'8	2° 48'2	16'7	2° 46'7	16'5	2° 45'1	16'4	2° 43'6	16'2	2° 42'0	16'1	2° 40'5	15'9	2° 38'9	15'8	2° 37'4	15'6	2° 35'8	15'5
110	3° 8'3	17'0	3° 6'6	16'8	3° 4'9	16'7	3° 3'2	16'5	3° 1'5	16'4	2° 59'8	16'2	2° 58'1	16'1	2° 56'4	15'9	2° 54'7	15'8	2° 53'0	15'6	2° 51'3	15'5
120	3° 25'3	16'9	3° 23'4	16'8	3° 21'6	16'6	3° 19'7	16'5	3° 17'9	16'3	3° 16'0	16'2	3° 14'2	16'0	3° 12'3	15'9	3° 10'5	15'7	3° 8'6	15'6	3° 6'8	15'4
130	3° 42'2	16'9	3° 40'2	16'7	3° 38'2	16'6	3° 36'2	16'4	3° 34'2	16'3	3° 32'2	16'1	3° 30'2	16'0	3° 28'2	15'8	3° 26'2	15'7	3° 24'2	15'6	3° 22'2	15'4
140	3° 59'1	16'8	3° 56'9	16'7	3° 54'8	16'5	3° 52'6	16'4	3° 50'5	16'2	3° 48'3	16'1	3° 46'2	15'9	3° 44'0	15'8	3° 41'9	15'7	3° 39'8	15'5	3° 37'6	15'4
150	4° 15'9	16'8	4° 13'6	16'7	4° 11'3	16'5	4° 9'0	16'4	4° 6'7	16'2	4° 4'4	16'1	4° 2'1	15'9	3° 59'8	15'8	3° 57'6	15'6	3° 55'3	15'4	3° 53'0	15'3
160	4° 32'7	16'7	4° 30'3	16'6	4° 27'8	16'5	4° 25'4	16'3	4° 22'9	16'2	4° 20'5	16'0	4° 18'0	15'9	4° 15'6	15'7	4° 13'2	15'6	4° 10'7	15'4	4° 8'3	15'3
170	4° 49'4	16'7	4° 46'9	16'5	4° 44'3	16'4	4° 41'7	16'2	4° 39'1	16'1	4° 36'5	16'0	4° 33'9	15'8	4° 31'3	15'7	4° 28'8	15'5	4° 26'1	15'4	4° 23'6	15'2
180	5° 6'1	16'6	5° 3'4	16'5	5° 0'7	16'3	4° 57'9	16'2	4° 55'2	16'0	4° 52'5	15'9	4° 49'7	15'8	4° 47'0	15'6	4° 44'3	15,5	4° 41'5	15'4	4° 38'8	15'2
190	5° 22'7	16'6	5° 19'9	16'4	5° 17'0	16'3	5° 14'1	16'1	5° 11'2	16'0	5° 8'4	15'8	5° 5'5	15'7	5° 2'6	15'6	4° 59'8	15'4	4° 56'9	15'3	4° 54'0	15'2
200	5° 39'3	16'5	5° 36'3	16'3	5° 33'3	16'2	5° 30'2	16'1	5° 27'2	16'0	5° 24'2	15'8	5° 21'2	15'7	5° 18'2	15'5	5° 15'2	15'4	5° 12'2	15'2	5° 9'2	15'1
210	5° 55'8	16'4	5° 52'6	16'3	5° 49'5	16'1	5° 46'3	16'0	5° 43'2	15'9	5° 40'0	15'8	5° 36'9	15'6	5° 33'7	15'5	5° 30'6	15'3	5° 27'4	15'2	5° 24'3	15'0
220	6° 12'2	16'4	6° 8'9	16'2	6° 5'6	16'1	6° 2'3	16'0	5° 59'1	15'8	5° 55'8	15'7	5° 52'5	15'5	5° 49'2	15'4	5° 45'9	15'3	5° 42'6	15'1	5° 39'3	15'0
230	6° 28'6	16'3	6° 25'1	16'2	6° 21'7	16'0	6° 18'3	15'9	6° 14'9	15'7	6° 11'5	15'6	6° 8'0	15'5	6° 4'6	15'3	6° 1'2	15'2	5° 57'7	15'1	5° 54'3	14'9
240	6° 44'9	16'2	6° 41'3	16'1	6° 37'7	16'0	6° 34'2	15'8	6° 30'6	15'7	6° 27'1	15'5	6° 23'5	15'4	6° 19'9	15'3	6° 16'4	15'1	6° 12'8	15'0	6° 9'2	14'9
250	7° 1'1	16'1	6° 57'4	16'0	6° 53'7	15'9	6° 50'0	15'7	6° 46'3	15'6	6° 42'6	15'5	6° 38'9	15'4	6° 35'2	15'2	6° 31'5	15'1	6° 27'8	15'0	6° 24'1	14'8
260	7° 17'2	16'1	7° 13'4	15'9	7° 9'6	15'8	7° 5'7	15'7	7° 1'9	15'5	6° 58'1	15'4	6° 54'3	15'3	6° 50'4	15'2	6° 46'6	15'0	6° 42'8	14'9	6° 38'9	14'8
270	7° 33'3	16'0	7° 29'3	15'9	7° 25'4	15'7	7° 21'4	15'6	7° 17'4	15'5	7° 13'5	15'3	7° 9'6	15'2	7° 5'6	15'1	7° 1'6	15'0	6° 57'7	14'8	6° 53'7	14'7
280	7° 49'3	15'9	7° 45'2	15'8	7° 41'1	15'6	7° 37'0	15'5	7° 32'9	15'4	7° 28'8	15'3	7° 24'8	15'1	7° 20'7	15'0	7° 16'6	14'9	7° 12'5	14'8	7° 8'4	14'7
290	8° 5'2	15'8	8° 1'0	15'7	7° 56'7	15'6	7° 52'5	15'4	7° 48'3	15'3	7° 44'1	15'2	7° 39'9	15'1	7° 35'7	14'9	7° 31'5	14'8	7° 27'3	14'7	7° 23'1	14'6
300	8° 21'0	15'7	8° 16'7	15'6	8° 12'3	15'5	8° 7'9	15'4	8° 3'6	15'3	7° 59'3	15'1	7° 55'0	15'0	7° 50'6	14'9	7° 46'3	14'8	7° 42'0	14'6	7° 37'7	14'5
310	8° 36'7	15'6	8° 32'3	15'5	8° 27'8	15'4	8° 23'3	15'3	8° 18'9	15'1	8° 14'4	15'0	8° 10'0	14'9	8° 5'5	14'8	8° 1'1	14'7	7° 56'6	14'6	7° 52'2	14'4
320	8° 52'3	15'5	8° 47'8	15'4	8° 43'2	15'3	8° 38'6	15'2	8° 34'0	15'1	8° 29'4	15'0	8° 24'9	14'8	8° 20'3	14'7	8° 15'8	14'6	8° 11'2	14'5	8° 6'6	14'4
330	9° 7'8	15'5	9° 3'2	15'3	8° 58'5	15'2	8° 53'8	15'1	8° 49'1	15'0	8° 44'4	14'9	8° 39'7	14'8	8° 35'0	14'7	8° 30'4	14'5	8° 25'7	14'4	8° 21'0	14'3
340	9° 23'3	15'4	9° 18'5	15'3	9° 13'7	15'1	9° 8'9	15'0	9° 4'1	14'9	8° 59'3	14'8	8° 54'5	14'7	8° 49'7	14'6	8° 44'9	14'4	8° 40'1	14'3	8° 35'3	14'2
350	9° 38'7	15'3	9° 33'8	15'1	9° 28'8	15'1	9° 23'9	15'0	9° 19'0	14'8	9° 14'1	14'7	9° 9'2	14'6	9° 4'3	14'5	8° 59'3	14'4	8° 54'4	14'3	8° 49'5	14'1
360	9° 54'0	15'2	9° 48'9	15'1	9° 43'9	15'0	9° 38'9	14'8	9° 33'8	14'8	9° 28'8	14'6	9° 23'8	14'5	9° 18'8	14'4	9° 13'7	14'3	9° 8'7	14'2	9° 3'6	14'1
370	10° 9'2	15'0	10° 4'0	14,9	9° 58'9	14'8	9° 53'7	14'7	9° 48'6	14'6	9° 43'4	14'6	9° 38'3	14'4	9° 33'2	14'3	9° 28'0	14'2	9° 22'9	14'1	9° 17'7	14'0
380	10° 24'2	14'9	10° 18'9	14'9	10° 13'7	14'8	10° 8'4	14'7	10° 3'2	14'5	9° 58'0	14'4	9° 52'7	14'3	9° 47'5	14'2	9° 42'2	14'1	9° 37'0	14'0	9° 31'7	13'9
390	10° 39'1	14'9	10° 33'8	14'8	10° 28'5	14'6	10° 23'1	14'6	10° 17'7	14'5	10° 12'4	14'4	10° 7'0	14'3	10° 1'7	14'2	9° 56'3	14'0	9° 51'0	13'9	9° 45'6	13'9
400	10° 54'0	14'8	10° 48'6	14'7	10° 43'1	14'6	10° 37'7	14'4	10° 32'2	14'4	10° 26'8	14'2	10° 21'3	14'2	10° 15'9	14'0	10° 10'3	14'0	10° 4'9	13'9	9° 59'5	13'7
410	11° 8'8	14'7	11° 3'3	14'5	10° 57'7	14'5	10° 52'1	14'4	10° 46'6	14'2	10° 41'0	14'2	10° 35'5	14'0	10° 29'9	14'0	10° 24'3	13'9	10° 18'8	13'8	10° 13'2	13'7
420	11° 23'5	14'5	11° 17'8	14'5	11° 12'2	14'3	11° 6'5	14'3	11° 0'8	14'2	10° 55'2	14'1	10° 49'5	14'0	10° 43'9	13'9	10° 38'2	13'8	10° 32'6	13'7	10° 26'9	13'6
430	11° 38'0	14'5	11° 32'3	14'3	11° 26'5	14'3	11° 20'8	14,2	11° 15'0	14'1	11° 9'3	13'9	11° 3'5	13'9	10° 57'8	13'8	10° 52'0	13'7	10° 46'3	13'6	10° 40'5	13'5
440	11° 52'5	14'3	11° 46'6	14'3	11° 40'8	14'2	11° 35'0	14'0	11° 29'1	14'0	11° 23'2	13'9	11° 17'4	13'8	11° 11'6	13'7	11° 5'7	13'6	10° 59'9	13'5	10° 54'0	13'4
450	12° 6'8	14'3	12° 0'9	14'2	11° 55'0	14'0	11° 49'0	14'0	11° 43'1	13'9	11° 37'1	13'8	11° 31'2	13'7	11° 25'3	13'6	11° 19'3	13'5	11° 13'4	13'4	11° 7'4	13'4
460	12° 21'1	14'1	12° 15'1	14'0	12° 9'0	14'0	12° 3'0	13'9	11° 57'0	13'7	11° 50'9	13'7	11° 44'9	13'6	11° 38'9	13'5	11° 32'8	13'5	11° 26'8	13'3	11° 20'8	13'3
470	12° 35'2	14'0	12° 29'1	13'9	12° 23'0	13'8	12° 16'9	13'7	12° 10'7	13'7	12° 4'6	13'6	11° 58'5	13'5	11° 52'4	13'4	11° 46'3	13'3	11° 40'1	13'3	11° 34'1	13'1
480	12° 49'2	13'9	12° 43'0	13'9	12° 36'8	13'7	12° 30'6	13'7	12° 24'4	13'6	12° 18'2	13'5	12° 12'0	13'4	12° 5'8	13'4	11° 59'6	13'3	11° 53'4	13'2	11° 47'2	13'1
490	13° 3'1	13'8	12° 56'9	13'7	12° 50'5	13'7	12° 44'3	13'6	12° 38'0	13'5	12° 31'7	13'4	12° 25'4	13'4	12° 19'2	13'2	12° 12'9	13'2	12° 6'6	13'1	12° 0'3	13'0
500	13° 16'9		13° 10'6		13° 4'2		12° 57'9		12° 51'5		12° 45'1		12° 38'8		12° 32'4		12° 26'1		12° 19'7		12° 13'3	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 1100—1200.

	1100	Diff.	1110	Diff.	1120	Diff.	1130	Diff.	1140	Diff.	1150	Diff.
0	0° 0'0	15'6	0° 0'0	15'5	0° 0'0	15'4	0° 0'0	15'2	0° 0'0	15'1	0° 0'0	15'0
10	0°15'6	15'7	0°15'5	15'5	0°15'4	15'3	0°15'2	15'3	0°15'1	15'1	0°15'0	15'0
20	0°31'3	15'6	0°31'0	15'5	0°30'7	15'4	0°30'5	15'2	0°30'2	15'1	0°30'0	14'9
30	0°46'9	15'6	0°46'5	15'5	0°46'1	15'3	0°45'7	15'2	0°45'3	15'1	0°44'9	15'0
40	1° 2'5	15'6	1° 2'0	15'4	1° 1'4	15'4	1° 0'9	15'2	1° 0'4	15'1	0°59'9	14'9
50	1°18'1	15'6	1°17'4	15'5	1°16'8	15'3	1°16'1	15'2	1°15'5	15'1	1°14'8	15'0
60	1°33'7	15'6	1°32'9	15'4	1°32'1	15'3	1°31'3	15'2	1°30'6	15'0	1°29'8	14'9
70	1°49'3	15'5	1°48'3	15'4	1°47'4	15'3	1°46'5	15'2	1°45'6	15'0	1°44'7	14'9
80	2° 4'8	15'5	2° 3'7	15'4	2° 2'7	15'3	2° 1'7	15'1	2° 0'6	15'0	1°59'6	14'9
90	2°20'3	15'5	2°19'1	15'4	2°18'0	15'3	2°16'8	15'1	2°15'6	15'0	2°14'5	14'9
100	2°35'8	15'5	2°34'5	15'4	2°33'3	15'2	2°31'9	15'1	2°30'6	15'0	2°29'4	14'8
110	2°51'3	15'5	2°49'9	15'3	2°48'5	15'2	2°47'0	15'1	2°45'6	15'0	2°44'2	14'8
120	3° 6'8	15'4	3° 5'2	15'3	3° 3'7	15'2	3° 2'1	15'1	3° 0'6	14'9	2°59'0	14'8
130	3°22'2	15'4	3°20'5	15'3	3°18'9	15'1	3°17'2	15'0	3°15'5	14'9	3°13'8	14'8
140	3°37'6	15'4	3°35'8	15'2	3°34'0	15'1	3°32'2	15'0	3°30'4	14'9	3°28'6	14'8
150	3°53'0	15'3	3°51'0	15'2	3°49'1	15'1	3°47'2	14'9	3°45'3	14'8	3°43'4	14'7
160	4° 8'3	15'3	4° 6'2	15'2	4° 4'2	15'0	4° 2'1	14'9	4° 0'1	14'8	3°58'1	14'6
170	4°23'6	15'2	4°21'4	15'1	4°19'2	15'0	4°17'0	14'9	4°14'9	14'7	4°12'7	14'6
180	4°38'8	15'2	4°36'5	15'1	4°34'2	15'0	4°31'9	14'9	4°29'6	14'7	4°27'3	14'6
190	4°54'0	15'2	4°51'6	15'0	4°49'2	14'9	4°46'8	14'8	4°44'3	14'7	4°41'9	14'6
200	5° 9'2	15'1	5° 6'6	15'0	5° 4'1	14'9	5° 1'6	14'7	4°59'0	14'7	4°56'5	14'5
210	5°24'3	15'0	5°21'6	14'9	5°19'0	14'8	5°16'3	14'7	5°13'7	14'6	5°11'0	14'5
220	5°39'3	15'0	5°36'5	14'9	5°33'8	14'7	5°31'0	14'6	5°28'3	14'5	5°25'5	14'4
230	5°54'3	14'9	5°51'4	14'8	5°48'5	14'7	5°45'6	14'6	5°42'8	14'5	5°39'9	14'4
240	6° 9'2	14'9	6° 6'2	14'8	6° 3'2	14'7	6° 0'2	14'6	5°57'3	14'4	5°54'3	14'3
250	6°24'1	14'8	6°21'0	14'7	6°17'9	14'6	6°14'8	14'5	6°11'7	14'4	6° 8'6	14'3
260	6°38'9	14'8	6°35'7	14'7	6°32'5	14'6	6°29'3	14'4	6°26'1	14'3	6°22'9	14'2
270	6°53'7	14'7	6°50'4	14'6	6°47'1	14'5	6°43'7	14'4	6°40'4	14'3	6°37'1	14'1
280	7° 8'4	14'7	7° 5'0	14'5	7° 1'6	14'4	6°58'1	14'3	6°54'7	14'2	6°51'2	14'1
290	7°23'1	14'6	7°19'5	14'5	7°16'0	14'3	7°12'4	14'3	7° 8'9	14'1	7° 5'3	14'1
300	7°37'7	14'5	7°34'0	14'4	7°30'3	14'3	7°26'7	14'2	7°23'0	14'1	7°19'4	14'0
310	7°52'2	14'4	7°48'4	14'3	7°44'6	14'3	7°40'9	14'1	7°37'1	14'0	7°33'4	13'9
320	8° 6'6	14'4	8° 2'7	14'3	7°58'9	14'2	7°55'0	14'1	7°51'1	14'0	7°47'3	13'8
330	8°21'0	14'3	8°17'0	14'2	8°13'1	14'1	8° 9'1	14'0	8° 5'1	13'9	8° 1'1	13'8
340	8°35'3	14'2	8°31'2	14'1	8°27'2	14'0	8°23'1	13'9	8°19'0	13'8	8°14'9	13'7
350	8°49'5	14'1	8°45'3	14'1	8°41'2	13'9	8°37'0	13'8	8°32'8	13'8	8°28'6	13'7
360	9° 3'6	14'1	8°59'4	14'0	8°55'1	13'9	8°50'8	13'8	8°46'6	13'7	8°42'3	13'6
370	9°17'7	14'0	9°13'4	13'9	9° 9'0	13'8	9° 4'6	13'7	9° 0'3	13'6	8°55'9	13'5
380	9°31'7	13'9	9°27'3	13'8	9°22'8	13'7	9°18'3	13'7	9°13'9	13'5	9° 9'4	13'5
390	9°45'6	13'9	9°41'1	13'7	9°36'5	13'7	9°32'0	13'6	9°27'4	13'5	9°22'9	13'4
400	9°59'5	13'7	9°54'8	13'7	9°50'2	13'6	9°45'6	13'5	9°40'9	13'4	9°36'3	13'3
410	10°13'2	13'7	10° 8'5	13'6	10° 3'8	13'5	9°59'1	13'4	9°54'3	13'3	9°49'6	13'2
420	10°26'9	13'6	10°22'1	13'5	10°17'3	13'4	10°12'5	13'3	10° 7'6	13'3	10° 2'8	13'2
430	10°40'5	13'5	10°35'6	13'5	10°30'7	13'3	10°25'8	13'3	10°20'9	13'2	10°16'0	13'1
440	10°54'0	13'4	10°49'1	13'3	10°44'0	13'3	10°39'1	13'1	10°34'1	13'1	10°29'1	13'0
450	11° 7'4	13'4	11° 2'4	13'2	10°57'3	13'2	10°52'2	13'1	10°47'2	13'0	10°42'1	12'9
460	11°20'8	13'3	11°15'6	13'2	11°10'5	13'1	11° 5'3	13'0	11° 0'2	12'9	10°55'0	12'9
470	11°34'1	13'1	11°28'8	13'1	11°23'6	13'0	11°18'3	12'9	11°13'1	12'9	11° 7'9	12'8
480	11°47'2	13'1	11°41'9	13'0	11°36'6	12'9	11°31'2	12'9	11°26'0	12'7	11°20'7	12'7
490	12° 0'3	13'0	11°54'9	12'9	11°49'5	12'9	11°44'1	12'8	11°38'7	12'7	11°33'4	12'6
500	12°13'3		12° 7'8		12° 2'4		11°56'9		11°51'4		11°46'0	

	1160	Diff.	1170	Diff.	1180	Diff.	1190	Diff.	1200	Diff.
0	0° 0'0	14'8	0° 0'0	14'7	0° 0'0	14'6	0° 0'0	14'5	0° 0'0	14'3
10	0°14'8	14'9	0°14'7	14'7	0°14'6	14'6	0°14'5	14'4	0°14'3	14'4
20	0°29'7	14'8	0°29'4	14'7	0°29'2	14'6	0°28'9	14'5	0°28'7	14'3
30	0°44'5	14'9	0°44'1	14'7	0°43'8	14'5	0°43'4	14'4	0°43'0	14'3
40	0°59'4	14'8	0°58'8	14'7	0°58'3	14'6	0°57'8	14'4	0°57'3	14'3
50	1°14'2	14'8	1°13'5	14'7	1°12'9	14'5	1°12'2	14'4	1°11'6	14'3
60	1°29'0	14'8	1°28'2	14'7	1°27'4	14'6	1°26'6	14'4	1°25'9	14'3
70	1°43'8	14'8	1°42'9	14'6	1°42'0	14'5	1°41'0	14'4	1°40'2	14'2
80	1°58'6	14'7	1°57'5	14'7	1°56'5	14'5	1°55'4	14'4	1°54'4	14'3
90	2°13'3	14'8	2°12'2	14'6	2°11'0	14'5	2° 9'8	14'4	2° 8'7	14'2
100	2°28'1	14'7	2°26'8	14'6	2°25'5	14'5	2°24'2	14'3	2°22'9	14'2
110	2°42'8	14'7	2°41'4	14'6	2°40'0	14'4	2°38'5	14'3	2°37'1	14'2
120	2°57'5	14'7	2°56'0	14'5	2°54'4	14'4	2°52'8	14'3	2°51'3	14'2
130	3°12'2	14'6	3°10'5	14'5	3° 8'8	14'4	3° 7'1	14'3	3° 5'5	14'1
140	3°26'8	14'6	3°25'0	14'5	3°23'2	14'4	3°21'4	14'3	3°19'6	14'1
150	3°41'4	14'6	3°39'5	14'5	3°37'6	14'3	3°35'7	14'2	3°33'7	14'1
160	3°56'0	14'6	3°54'0	14'4	3°51'9	14'3	3°49'9	14'2	3°47'8	14'1
170	4°10'6	14'5	4° 8'4	14'4	4° 6'2	14'3	4° 4'1	14'1	4° 1'9	14'0
180	4°25'1	14'5	4°22'8	14'3	4°20'5	14'2	4°18'2	14'1	4°15'9	14'0
190	4°39'6	14'4	4°37'1	14'3	4°34'7	14'2	4°32'3	14'1	4°29'9	14'0
200	4°54'0	14'4	4°51'4	14'3	4°48'9	14'2	4°46'4	14'0	4°43'9	13'9
210	5° 8'4	14'3	5° 5'7	14'2	5° 3'1	14'1	5° 0'4	14'0	4°57'8	13'9
220	5°22'7	14'3	5°19'9	14'2	5°17'2	14'1	5°14'4	14'0	5°11'7	13'8
230	5°37'0	14'3	5°34'1	14'2	5°31'3	14'0	5°28'4	13'9	5°25'5	13'8
240	5°51'3	14'2	5°48'3	14'1	5°45'3	14'0	5°42'3	13'9	5°39'3	13'8
250	6° 5'5	14'1	6° 2'4	14'0	5°59'3	13'9	5°56'2	13'8	5°53'1	13'7
260	6°19'6	14'1	6°16'4	14'0	6°13'2	13'9	6°10'0	13'8	6° 6'8	13'6
270	6°33'7	14'1	6°30'4	13'9	6°27'1	13'8	6°23'8	13'7	6°20'4	13'6
280	6°47'8	14'0	6°44'3	13'9	6°40'9	13'8	6°37'5	13'6	6°34'0	13'6
290	7° 1'8	13'9	6°58'2	13'8	6°54'7	13'7	6°51'1	13'6	6°47'6	13'5
300	7°15'7	13'9	7°12'0	13'8	7° 8'4	13'7	7° 4'7	13'6	7° 1'1	13'4
310	7°29'6	13'8	7°25'8	13'7	7°22'1	13'6	7°18'3	13'5	7°14'5	13'4
320	7°43'4	13'8	7°39'5	13'7	7°35'7	13'5	7°31'8	13'5	7°27'9	13'4
330	7°57'2	13'7	7°53'2	13'6	7°49'2	13'5	7°45'3	13'4	7°41'3	13'3
340	8°10'9	13'6	8° 6'8	13'5	8° 2'7	13'4	7°58'7	13'3	7°54'6	13'2
350	8°24'5	13'6	8°20'3	13'5	8°16'1	13'4	8°12'0	13'3	8° 7'8	13'2
360	8°38'1	13'5	8°33'8	13'4	8°29'5	13'3	8°25'3	13'2	8°21'0	13'1
370	8°51'6	13'4	8°47'2	13'3	8°42'8	13'2	8°38'5	13'1	8°34'1	13'0
380	9° 5'0	13'3	9° 0'5	13'3	8°56'0	13'2	8°51'6	13'1	8°47'1	13'0
390	9°18'3	13'3	9°13'8	13'2	9° 9'2	13'1	9° 4'7	13'0	9° 0'1	12'9
400	9°31'6	13'2	9°27'0	13'1	9°22'3	13'1	9°17'7	12'9	9°13'0	12'9
410	9°44'8	13'2	9°40'1	13'1	9°35'4	13'0	9°30'6	12'9	9°25'9	12'8
420	9°58'0	13'1	9°53'2	13'0	9°48'4	12'9	9°43'5	12'8	9°38'7	12'7
430	10°11'1	13'0	10° 6'2	12'9	10° 1'3	12'8	9°56'3	12'8	9°51'4	12'7
440	10°24'1	12'9	10°19'1	12'8	10°14'1	12'7	10° 9'1	12'7	10° 4'1	12'6
450	10°37'0	12'8	10°31'9	12'8	10°26'8	12'7	10°21'8	12'6	10°16'7	12'5
460	10°49'8	12'8	10°44'7	12'7	10°39'5	12'6	10°34'4	12'5	10°29'2	12'4
470	11° 2'6	12'7	10°57'4	12'6	10°52'1	12'6	10°46'9	12'5	10°41'6	12'4
480	11°15'3	12'6	11°10'0	12'5	11° 4'7	12'5	10°59'4	12'4	10°54'0	12'3
490	11°27'9	12'6	11°22'5	12'5	11°17'2	12'4	11°11'8	12'3	11° 6'3	12'3
500	11°40'5		11°35'0		11°29'6		11°24'1		11°18'6	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 1200—1300.

	1200	Diff.	1210	Diff.	1220	Diff.	1230	Diff.	1240	Diff.	1250	Diff.
0	0° 0'0	14'3	0° 0'0	14'2	0° 0'0	14'1	0° 0'0	14'0	0° 0'0	13'9	0° 0'0	13'8
10	0°14'3	14'4	0°14'2	14'2	0°14'1	14'1	0°14'0	14'0	0°13'9	13'9	0°13'8	13'8
20	0°28'7	14'3	0°28'4	14'2	0°28'2	14'1	0°28'0	14'0	0°27'8	13'9	0°27'6	13'7
30	0°43'0	14'3	0°42'6	14'2	0°42'3	14'1	0°42'0	14'0	0°41'7	13'8	0°41'3	13'8
40	0°57'3	14'3	0°56'8	14'2	0°56'4	14'1	0°56'0	13'9	0°55'5	13'9	0°55'1	13'7
50	1°11'6	14'3	1°11'0	14'2	1°10'5	14'1	1° 9'9	14'0	1° 9'4	13'8	1° 8'8	13'8
60	1°25'9	14'3	1°25'2	14'2	1°24'6	14'0	1°23'9	14'0	1°23'2	13'9	1°22'6	13'7
70	1°40'2	14'2	1°39'4	14'1	1°38'6	14'1	1°37'9	13'9	1°37'1	13'8	1°36'3	13'7
80	1°54'4	14'3	1°53'5	14'2	1°52'7	14'0	1°51'8	13'9	1°50'9	13'8	1°50'0	13'7
90	2° 8'7	14'2	2° 7'7	14'1	2° 6'7	14'0	2° 5'7	13'9	2° 4'7	13'8	2° 3'7	13'7
100	2°22'9	14'2	2°21'8	14'1	2°20'7	14'0	2°19'6	13'9	2°18'5	13'8	2°17'4	13'7
110	2°37'1	14'2	2°35'9	14'1	2°34'7	14'0	2°33'5	13'9	2°32'3	13'8	2°31'1	13'7
120	2°51'3	14'2	2°50'0	14'1	2°48'7	14'0	2°47'4	13'9	2°46'1	13'7	2°44'8	13'6
130	3° 5'5	14'1	3° 4'1	14'0	3° 2'7	13'9	3° 1'3	13'8	2°59'8	13'7	2°58'4	13'6
140	3°19'6	14'1	3°18'1	14'0	3°16'0	13'9	3°15'1	13'8	3°13'5	13'7	3°12'0	13'6
150	3°33'7	14'1	3°32'1	14'0	3°30'5	13'9	3°28'9	13'8	3°27'2	13'7	3°25'6	13'6
160	3°47'8	14'1	3°46'1	14'0	3°44'4	13'8	3°42'7	13'7	3°40'9	13'6	3°39'2	13'5
170	4° 1'9	14'0	4° 0'1	13'9	3°58'2	13'8	3°56'4	13'7	3°54'5	13'6	3°52'7	13'5
180	4°15'9	14'0	4°14'0	13'9	4°12'0	13'8	4°10'1	13'7	4° 8'1	13'6	4° 6'2	13'5
190	4°29'9	14'0	4°27'9	13'8	4°25'8	13'8	4°23'8	13'6	4°21'7	13'6	4°19'7	13'4
200	4°43'9	13'9	4°41'7	13'8	4°39'6	13'7	4°37'4	13'6	4°35'3	13'5	4°33'1	13'4
210	4°57'8	13'9	4°55'5	13'8	4°53'3	13'7	4°51'0	13'6	4°48'8	13'5	4°46'5	13'4
220	5°11'7	13'8	5° 9'3	13'8	5° 7'0	13'6	5° 4'6	13'5	5° 2'3	13'4	4°59'9	13'3
230	5°25'5	13'8	5°23'1	13'7	5°20'6	13'6	5°18'1	13'5	5°15'7	13'4	5°13'2	13'3
240	5°39'3	13'8	5°36'8	13'6	5°34'2	13'6	5°31'6	13'5	5°29'1	13'4	5°26'5	13'3
250	5°53'1	13'7	5°50'4	13'6	5°47'8	13'5	5°45'1	13'4	5°42'5	13'3	5°39'8	13'2
260	6° 6'8	13'6	6° 4'0	13'6	6° 1'3	13'4	5°58'5	13'4	5°55'8	13'3	5°53'0	13'2
270	6°20'4	13'6	6°17'6	13'5	6°14'7	13'4	6°11'9	13'3	6° 9'1	13'2	6° 6'2	13'1
280	6°34'0	13'6	6°31'1	13'5	6°28'1	13'4	6°25'2	13'3	6°22'3	13'2	6°19'3	13'1
290	6°47'6	13'5	6°44'6	13'4	6°41'5	13'3	6°38'5	13'2	6°35'5	13'1	6°32'4	13'1
300	7° 1'1	13'4	6°58'0	13'3	6°54'8	13'3	6°51'7	13'2	6°48'6	13'1	6°45'5	13'0
310	7°14'5	13'4	7°11'3	13'3	7° 8'1	13'2	7° 4'9	13'1	7° 1'7	13'0	6°58'5	12'9
320	7°27'9	13'4	7°24'6	13'3	7°21'3	13'2	7°18'0	13'1	7°14'7	13'0	7°11'4	12'9
330	7°41'3	13'3	7°37'9	13'2	7°34'5	13'1	7°31'1	13'0	7°27'7	12'9	7°24'3	12'8
340	7°54'6	13'2	7°51'1	13'1	7°47'6	13'1	7°44'1	13'0	7°40'6	12'9	7°37'1	12'8
350	8° 7'8	13'2	8° 4'2	13'1	8° 0'7	13'0	7°57'1	12'9	7°53'5	12'8	7°49'9	12'8
360	8°21'0	13'1	8°17'3	13'0	8°13'7	12'9	8°10'0	12'9	8° 6'3	12'8	8° 2'7	12'7
370	8°34'1	13'0	8°30'3	13'0	8°26'6	12'9	8°22'9	12'8	8°19'1	12'7	8°15'4	12'6
380	8°47'1	13'0	8°43'3	12'9	8°39'5	12'8	8°35'7	12'7	8°31'8	12'7	8°28'0	12'6
390	9° 0'1	12'9	8°56'2	12'8	8°52'3	12'8	8°48'4	12'7	8°44'5	12'6	8°40'6	12'5
400	9°13'0	12'9	9° 9'0	12'8	9° 5'1	12'7	9° 1'1	12'6	8°57'1	12'5	8°53'1	12'4
410	9°25'9	12'8	9°21'8	12'7	9°17'8	12'6	9°13'7	12'5	9° 9'6	12'5	9° 5'5	12'4
420	9°38'7	12'7	9°34'5	12'7	9°30'4	12'6	9°26'2	12'5	9°22'1	12'4	9°17'9	12'3
430	9°51'4	12'7	9°47'2	12'6	9°43'0	12'5	9°38'7	12'4	9°34'5	12'3	9°30'2	12'3
440	10° 4'1	12'6	9°59'8	12'5	9°55'5	12'4	9°51'1	12'4	9°46'8	12'3	9°42'5	12'2
450	10°16'7	12'5	10°12'3	12'4	10° 7'9	12'4	10° 3'5	12'3	9°59'1	12'2	9°54'7	12'2
460	10°29'2	12'4	10°24'7	12'4	10°20'3	12'3	10°15'8	12'2	10°11'3	12'2	10° 6'9	12'1
470	10°41'6	12'4	10°37'1	12'3	10°32'6	12'2	10°28'0	12'2	10°23'5	12'1	10°19'0	12'0
480	10°54'0	12'3	10°49'4	12'3	10°44'8	12'2	10°40'2	12'1	10°35'6	12'0	10°31'0	12'0
490	11° 6'3	12'3	11° 1'7	12'2	10°57'0	12'1	10°52'3	12'1	10°47'6	12'0	10°43'0	11'9
500	11°18'6		11°13'9		11° 9'1		11° 4'4		10°59'6		10°54'9	

	1260	Diff.	1270	Diff.	1280	Diff.	1290	Diff.	1300	Diff.
0	0° 0'0	13'7	0° 0'0	13'5	0° 0'0	13'4	0° 0'0	13'3	0° 0'0	13'2
10	0°13'7	13'6	0°13'5	13'6	0°13'4	13'5	0°13'3	13'4	0°13'2	13'3
20	0°27'3	13'7	0°27'1	13'5	0°26'9	13'4	0°26'7	13'3	0°26'5	13'2
30	0°41'0	13'6	0°40'6	13'6	0°40'3	13'5	0°40'0	13'3	0°39'7	13'2
40	0°54'6	13'7	0°54'2	13'5	0°53'8	13'4	0°53'3	13'3	0°52'9	13'2
50	1° 8'3	13'6	1° 7'7	13'6	1° 7'2	13'4	1° 6'6	13'3	1° 6'1	13'2
60	1°21'9	13'7	1°21'3	13'5	1°20'6	13'4	1°19'9	13'3	1°19'3	13'2
70	1°35'6	13'6	1°34'8	13'5	1°34'0	13'4	1°33'2	13'3	1°32'5	13'2
80	1°49'2	13'6	1°48'3	13'5	1°47'4	13'4	1°46'5	13'3	1°45'7	13'1
90	2° 2'8	13'6	2° 1'8	13'5	2° 0'8	13'4	1°59'8	13'3	1°58'8	13'2
100	2°16'4	13'5	2°15'3	13'4	2°14'2	13'3	2°13'1	13'2	2°12'0	13'1
110	2°29'9	13'6	2°28'7	13'5	2°27'5	13'3	2°26'3	13'2	2°25'1	13'1
120	2°43'5	13'5	2°42'2	13'4	2°40'8	13'3	2°39'5	13'2	2°38'2	13'1
130	2°57'0	13'5	2°55'6	13'4	2°54'1	13'3	2°52'7	13'2	2°51'3	13'1
140	3°10'5	13'5	3° 9'0	13'4	3° 7'4	13'3	3° 5'9	13'2	3° 4'4	13'1
150	3°24'0	13'5	3°22'4	13'3	3°20'7	13'3	3°19'1	13'1	3°17'5	13'0
160	3°37'5	13'4	3°35'7	13'3	3°34'0	13'2	3°32'2	13'1	3°30'5	13'0
170	3°50'9	13'4	3°49'0	13'3	3°47'2	13'2	3°45'3	13'1	3°43'5	13'0
180	4° 4'3	13'4	4° 2'3	13'3	4° 0'4	13'2	3°58'4	13'1	3°56'5	13'0
190	4°17'7	13'3	4°15'6	13'2	4°13'6	13'1	4°11'5	13'0	4° 9'5	12'9
200	4°31'0	13'3	4°28'8	13'2	4°26'7	13'1	4°24'5	13'0	4°22'4	12'9
210	4°44'3	13 3	4°42'0	13'2	4°39'8	13'1	4°37'5	13'0	4°35'3	12'9
220	4°57'6	13'2	4°55'2	13'1	4°52'9	13'0	4°50'5	12'9	4°48'2	12'8
230	5°10'8	13'2	5° 8'3	13'1	5° 5'9	13'0	5° 3'4	12'9	5° 1'0	12'8
240	5°24'0	13'2	5°21'4	13'1	5°18'9	13'0	5°16'3	12'9	5°13'8	12'8
250	5°37'2	13'1	5°34'5	13'0	5°31'9	12'9	5°29'2	12'8	5°26'6	12'7
260	5°50'3	13'1	5°47'5	13'0	5°44'8	12'9	5°42'0	12'8	5°39'3	12'7
270	6° 3'4	13'0	6° 0'5	12'9	5°57'7	12'8	5°54'8	12'8	5°52'0	12'7
280	6°16'4	13'0	6°13'4	12'9	6°10'5	12'8	6° 7'6	12'7	6° 4'7	12'6
290	6°29'4	12'9	6°26'3	12'9	6°23'3	12'8	6°20'3	12'7	6°17'3	12'6
300	6°42'3	12'9	6°39'2	12'8	6°36'1	12'7	6°33'0	12'6	6°29'9	12'5
310	6°55'2	12'9	6°52'0	12'8	6°48'8	12'7	6°45'6	12'6	6°42'4	12'5
320	7° 8'1	12'8	7° 4'8	12'7	7° 1'5	12'6	6°58'2	12'5	6°54'9	12'4
330	7°20'9	12'8	7°17'5	12'7	7°14'1	12'6	7°10'7	12'5	7° 7'3	12'4
340	7°33'7	12'7	7°30'2	12'6	7°26'7	12'5	7°23'2	12'4	7°19'7	12'4
350	7°46'4	12'6	7°42'8	12'6	7°39'2	12'5	7°35'6	12'4	7°32'1	12'3
360	7°59'0	12'6	7°55'4	12'5	7°51'7	12'4	7°48'0	12'4	7°44'4	12'2
370	8°11'6	12'6	8° 7'9	12'4	8° 4'1	12'4	8° 0'4	12'3	7°56'6	12'2
380	8°24'2	12'5	8°20'3	12'4	8°16'5	12'3	8°12'7	12'2	8° 8'8	12'2
390	8°36'7	12'4	8°32'7	12'4	8°28'8	12'3	8°24'9	12'2	8°21'0	12'1
400	8°49'1	12'3	8°45'1	12'3	8°41'1	12'2	8°37'1	12'1	8°33'1	12'0
410	9° 1'4	12'3	8°57'4	12'2	8°53'3	12'1	8°49'2	12'1	8°45'1	12'0
420	9°13'7	12'3	9° 9'6	12'2	9° 5'4	12'1	9° 1'3	12'0	8°57'1	12'0
430	9°26'0	12'2	9°21'8	12'1	9°17'5	12'1	9°13'3	12'0	9° 9'1	11'9
440	9°38'2	12'1	9°33'9	12'1	9°29'6	12'0	9°25'3	11'9	9°21'0	11'8
450	9°50'3	12'1	9°46'0	12'0	9°41'6	11'9	9°37'2	11'8	9°32'8	11'8
460	10° 2'4	12'0	9°58'0	11'9	9°53'5	11'9	9°49'0	11'8	9°44'6	11'7
470	10°14'4	12'0	10° 9'9	11'9	10° 5'4	11'8	10° 0'8	11'8	9°56'3	11'7
480	10°26'4	11'9	10°21'8	11,8	10°17'2	11'7	10°12'6	11'7	10° 8'0	11'6
490	10°38'3	11'8	10°33'6	11'8	10°28'9	11'7	10°24'3	11'6	10°19'6	11'5
500	10°50'1		10°45'4		10°40'6		10°35'9		10°31'1	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 1300—1400.

	1300	Diff.	1310	Diff.	1320	Diff.	1330	Diff.	1340	Diff.	1350	Diff.	1360	Diff.	1370	Diff.	1380	Diff.	1390	Diff.	1400	Diff.
0	0° 0'0	13'2	0° 0'0	13'1	0° 0'0	13'0	0° 0'0	12'9	0° 0'0	12'8	0° 0'0	12'7	0° 0'0	12'7	0° 0'0	12'6	0° 0'0	12'5	0° 0'0	12'4	0° 0'0	12'3
10	0°13'2	13'3	0°13'1	13'2	0°13'0	13'1	0°12'9	13'0	0°12'8	12'9	0°12'7	12'8	0°12'7	12'6	0°12'6	12'5	0°12'5	12'4	0°12'4	12'4	0°12'3	12'3
20	0°26'5	13'2	0°26'3	13'1	0°26'1	13'0	0°25'9	12'9	0°25'7	12'8	0°25'5	12'7	0°25'3	12'7	0°25'1	12'6	0°24'9	12'5	0°24'8	12'3	0°24'6	12'2
30	0°39'7	13'2	0°39'4	13'1	0°39'1	13'0	0°38'8	12'9	0°38'5	12'9	0°38'2	12'8	0°38'0	12'6	0°37'7	12'5	0°37'4	12'4	0°37'1	12'4	0°36'8	12'3
40	0°52'9	13'2	0°52'5	13'1	0°52'1	13'0	0°51'7	13'0	0°51'4	12'8	0°51'0	12'7	0°50'6	12'7	0°50'2	12'6	0°49'8	12'5	0°49'5	12'3	0°49'1	12'3
50	1° 6'1	13'2	1° 5'6	13'1	1° 5'1	13'0	1° 4'7	12'9	1° 4'2	12'8	1° 3'7	12'8	1° 3'3	12'6	1° 2'8	12'5	1° 2'3	12'4	1° 1'8	12'4	1° 1'4	12'2
60	1°19'3	13'2	1°18'7	13'1	1°18'1	13'0	1°17'6	12'9	1°17'0	12'8	1°16'5	12'7	1°15'9	12'6	1°15'3	12'6	1°14'7	12'5	1°14'2	12'3	1°13'6	12'3
70	1°32'5	13'2	1°31'8	13'1	1°31'1	13'0	1°30'5	12'9	1°29'8	12'8	1°29'2	12'7	1°28'5	12'6	1°27'9	12'5	1°27'2	12'4	1°26'5	12'4	1°25'9	12'2
80	1°45'7	13'1	1°44'9	13'1	1°44'1	13'0	1°43'4	12'9	1°42'6	12'8	1°41'9	12'7	1°41'1	12'6	1°40'4	12'5	1°39'6	12'4	1°38'9	12'3	1°38'1	12'3
90	1°58'8	13'2	1°58'0	13'0	1°57'1	13'0	1°56'3	12'8	1°55'4	12'8	1°54'6	12'7	1°53'7	12'6	1°52'9	12'5	1°52'0	12'4	1°51'2	12'3	1°50'4	12'2
100	2°12'0	13'1	2°11'0	13'1	2°10'1	12'9	2° 9'1	12'9	2° 8'2	12'8	2° 7'3	12'7	2° 6'3	12'6	2° 5'4	12'5	2° 4'4	12'4	2° 3'5	12'3	2° 2'6	12'2
110	2°25'1	13'1	2°24'1	13'0	2°23'0	13'0	2°22'0	12'8	2°21'0	12'7	2°20'0	12'6	2°18'9	12'6	2°17'9	12'5	2°16'8	12'4	2°15'8	12'3	2°14'8	12'2
120	2°38'2	13'1	2°37'1	13'0	2°36'0	12'9	2°34'8	12'9	2°33'7	12'8	2°32'6	12'7	2°31'5	12'5	2°30'4	12'4	2°29'2	12'4	2°28'1	12'3	2°27'0	12'2
130	2°51'3	13'1	2°50'1	13'0	2°48'9	12'9	2°47'7	12'8	2°46'5	12'7	2°45'3	12'6	2°44'0	12'6	2°42'8	12'4	2°41'6	12'4	2°40'4	12'2	2°39'2	12'1
140	3° 4'4	13'1	3° 3'1	13'0	3° 1'8	12'9	3° 0'5	12'8	2°59'2	12'7	2°57'9	12'6	2°56'6	12'5	2°55'2	12'4	2°54'0	12'3	2°52'6	12'3	2°51'3	12'2
150	3°17'5	13'0	3°16'1	12'9	3°14'7	12'8	3°13'3	12'7	3°11'9	12'6	3°10'5	12'6	3° 9'1	12'5	3° 7'6	12'4	3° 6'3	12'3	3° 4'9	12'2	3° 3'5	12'1
160	3°30'5	13'0	3°29'0	12'9	3°27'5	12'8	3°26'0	12'8	3°24'5	12'7	3°23'1	12'5	3°21'6	12'4	3°20'0	12'4	3°18'6	12'3	3°17'1	12'2	3°15'6	12'1
170	3°43'5	13'0	3°41'9	12'9	3°40'3	12'8	3°38'8	12'7	3°37'2	12'6	3°35'6	12'5	3°34'0	12'5	3°32'4	12'4	3°30'9	12'2	3°29'3	12'2	3°27'7	12'1
180	3°56'5	13'0	3°54'8	12'9	3°53'1	12'8	3°51'5	12'7	3°49'8	12'6	3°48'1	12'5	3°46'5	12'4	3°44'8	12'3	3°43'1	12'3	3°41'5	12'1	3°39'8	12'1
190	4° 9'5	12'9	4° 7'7	12'8	4° 5'9	12'8	4° 4'2	12'6	4° 2'4	12'6	4° 0'6	12'5	3°58'9	12'4	3°57'1	12'3	3°55'4	12'2	3°53'6	12'1	3°51'9	12'0
200	4°22'4	12'9	4°20'5	12'8	4°18'7	12'7	4°16'8	12'7	4°15'0	12'6	4°13'1	12'5	4°11'3	12'4	4° 9'4	12'3	4° 7'6	12'2	4° 5'7	12'1	4° 3'9	12'0
210	4°35'3	12'9	4°33'3	12'8	4°31'4	12'7	4°29'5	12'6	4°27'6	12'5	4°25'6	12'4	4°23'7	12'3	4°21'7	12'3	4°19'8	12'2	4°17'8	12'1	4°15'9	12'0
220	4°48'2	12'8	4°46'1	12'8	4°44'1	12'7	4°42'1	12'6	4°40'1	12'5	4°38'0	12'4	4°36'0	12'3	4°34'0	12'2	4°32'0	12'1	4°29'9	12'1	4°27'9	12'0
230	5° 1'0	12'8	4°58'9	12'7	4°56'8	12'6	4°54'7	12'5	4°52'6	12'4	4°50'4	12'4	4°48'3	12'3	4°46'2	12'2	4°44'1	12'1	4°42'0	12'0	4°39'9	11'9
240	5°13'8	12'8	5°11'6	12'7	5° 9'4	12'6	5° 7'2	12'5	5° 5'0	12'4	5° 2'8	12'4	5° 0'6	12'3	4°58'4	12'2	4°56'2	12'1	4°54'0	12'0	4°51'8	11'9
250	5°26'6	12'7	5°24'3	12'6	5°22'0	12'6	5°19'7	12'5	5°17'4	12'4	5°15'2	12'3	5°12'9	12'2	5°10'6	12'1	5° 8'3	12'1	5° 6'0	12'0	5° 3'7	11'9
260	5°39'3	12'7	5°36'9	12'6	5°34'6	12'5	5°32'2	12'4	5°29'8	12'4	5°27'5	12'3	5°25'1	12'2	5°22'7	12'1	5°20'4	12'0	5°18'0	11'9	5°15'6	11'9
270	5°52'0	12'7	5°49'5	12'6	5°47'1	12'5	5°44'6	12'4	5°42'2	12'3	5°39'8	12'2	5°37'3	12'2	5°34'8	12'1	5°32'4	12'0	5°29'9	11'9	5°27'5	11'8
280	6° 4'7	12'6	6° 2'1	12'5	5°59'6	12'4	5°57'0	12'4	5°54'5	12'3	5°52'0	12'2	5°49'5	12'1	5°46'9	12'0	5°44'4	11'9	5°41'8	11'9	5°39'3	11'8
290	6°17'3	12'6	6°14'6	12'5	6°12'0	12'4	6° 9'4	12'3	6° 6'8	12'2	6° 4'2	12'2	6° 1'6	12'1	5°58'9	12'0	5°56'3	11'9	5°53'7	11'8	5°51'1	11'8
300	6°29'9	12'5	6°27'1	12'5	6°24'4	12'4	6°21'7	12'3	6°19'0	12'2	6°16'4	12'1	6°13'7	12'0	6°10'9	12'0	6° 8'2	11'9	6° 5'5	11'8	6° 2'9	11'7
310	6°42'4	12'5	6°39'6	12'4	6°36'8	12'3	6°34'0	12'3	6°31'2	12'2	6°28'5	12'1	6°25'7	12'0	6°22'9	11'9	6°20'1	11'9	6°17'3	11'8	6°14'6	11'7
320	6°54'9	12'4	6°52'0	12'4	6°49'1	12'3	6°46'3	12'2	6°43'4	12'1	6°40'6	12'0	6°37'7	12'0	6°34'8	11'9	6°32'0	11'8	6°29'1	11'7	6°26'3	11'6
330	7° 7'3	12'4	7° 4'4	12'3	7° 1'4	12'3	6°58'5	12'2	6°55'5	12'1	6°52'6	12'0	6°49'7	11'9	6°46'7	11'9	6°43'8	11'8	6°40'8	11'7	6°37'9	11'6
340	7°19'7	12'4	7°16'7	12'3	7°13'7	12'2	7°10'7	12'1	7° 7'6	12'1	7° 4'6	12'0	7° 1'6	11'9	6°58'6	11'8	6°55'6	11'7	6°52'5	11'7	6°49'5	11'6
350	7°32'1	12'3	7°29'0	12'2	7°25'9	12'1	7°22'8	12'1	7°19'7	12'0	7°16'6	11'9	7°13'5	11'8	7°10'4	11'8	7° 7'3	11'7	7° 4'2	11'6	7° 1'1	11'5
360	7°44'4	12'2	7°41'2	12'2	7°38'0	12'1	7°34'9	12'0	7°31'7	11'9	7°28'5	11'9	7°25'3	11'8	7°22'2	11'7	7°19'0	11'6	7°15'8	11'6	7°12'6	11'5
370	7°56'6	12'2	7°53'4	12'1	7°50'1	12'1	7°46'9	12'0	7°43'6	11'9	7°40'4	11'8	7°37'1	11'8	7°33'9	11'7	7°30'6	11'6	7°27'4	11'5	7°24'1	11'5
380	8° 8'8	12'2	8° 5'5	12'1	8° 2'2	12'0	7°58'9	11'9	7°55'5	11'9	7°52'2	11'8	7°48'9	11'7	7°45'6	11'6	7°42'2	11'6	7°38'9	11'5	7°35'6	11'4
390	8°21'0	12'1	8°17'6	12'0	8°14'2	11'9	8°10'8	11'9	8° 7'4	11'8	8° 4'0	11'7	8° 0'6	11'7	7°57'2	11'6	7°53'8	11'5	7°50'4	11'4	7°47'0	11'4
400	8°33'1	12'0	8°29'6	12'0	8°26'1	11'9	8°22'7	11'8	8°19'2	11'8	8°15'7	11'7	8°12'3	11'6	8° 8'8	11'5	8° 5'3	11'5	8° 1'8	11'4	7°58'4	11'3
410	8°45'1	12'0	8°41'6	11'9	8°38'0	11'9	8°34'5	11'8	8°31'0	11'7	8°27'4	11'7	8°23'9	11'6	8°20'3	11'5	8°16'8	11'4	8°13'2	11'4	8° 9'7	11'3
420	8°57'1	12'0	8°53'5	11'9	8°49'9	11'8	8°46'3	11'7	8°42'7	11'7	8°39'1	11'6	8°35'5	11'5	8°31'8	11'5	8°28'2	11'4	8°24'6	11'3	8°21'0	11'2
430	9° 9'1	11'9	9° 5'4	11'8	9° 1'7	11'8	8°58'0	11'7	8°54'4	11'6	8°50'7	11'5	8°47'0	11'5	8°43'3	11'4	8°39'6	11'3	8°35'9	11'3	8°32'2	11'2
440	9°21'0	11'8	9°17'2	11'8	9°13'5	11'7	9° 9'7	11'6	9° 6'0	11'5	9° 2'2	11'5	8°58'5	11'4	8°54'7	11'3	8°50'9	11'3	8°47'2	11'2	8°43'4	11'2
450	9°32'8	11'8	9°29'0	11'7	9°25'2	11'6	9°21'3	11'6	9°17'5	11'5	9°13'7	11'4	9° 9'9	11'4	9° 6'0	11'3	9° 2'2	11'2	8°58'4	11'2	8°54'6	11'1
460	9°44'6	11'7	9°40'7	11'7	9°36'8	11'6	9°32'9	11'5	9°29'0	11'5	9°25'1	11'4	9°21'3	11'3	9°17'3	11'3	9°13'4	11'2	9° 9'6	11'1	9° 5'7	11'0
470	9°56'3	11'7	9°52'4	11'6	9°48'4	11'5	9°44'4	11'5	9°40'5	11'4	9°36'5	11'4	9°32'6	11'2	9°28'6	11'2	9°24'6	11'2	9°20'7	11'1	9°16'7	11'0
480	10° 8'0	11'6	10° 4'0	11'5	9°59'9	11'5	9°55'9	11'4	9°51'9	11'3	9°47'9	11'3	9°43'8	11'2	9°39'8	11'2	9°35'8	11'1	9°31'8	11'0	9°27'7	11'0
490	10°19'6	11'5	10°15'5	11'5	10°11'4	11'4	10° 7'3	11'4	10° 3'2	11'3	9°59'2	11'2	9°55'0	11'2	9°51'0	11'1	9°46'9	11'0	9°42'8	11'0	9°38'7	10'9
500	10°31'1		10°27'0		10°22'8		10°18'7		10°14'5		10°10'4		10° 6'2		10° 2'1		9°57'9		9°53'8		9°49'6	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 1400 — 1500.

	1400	Diff.	1410	Diff.	1420	Diff.	1430	Diff.	1440	Diff.	1450	Diff.
0	0° 0'0	12'3	0° 0'0	12'2	0° 0'0	12'1	0° 0'0	12'0	0° 0'0	11'9	0° 0'0	11'9
10	0°12'3	12'3	0°12'2	12'2	0°12'1	12'1	0°12'0	12'1	0°11'9	12'0	0°11'9	11'9
20	0°24'6	12'2	0°24'4	12'2	0°24'2	12'1	0°24'1	12'0	0°23'9	11'9	0°23'8	11'8
30	0°36'8	12'3	0°36'6	12'2	0°36'3	12'1	0°36'1	12'0	0°35'8	12'0	0°35'6	11'9
40	0°49'1	12'3	0°48'8	12'2	0°48'4	12'1	0°48'1	12'0	0°47'8	11'9	0°47'5	11'8
50	1° 1'4	12'2	1° 1'0	12'1	1° 0'5	12'1	1° 0'1	12'0	0°59'7	12'0	0°59'3	11'9
60	1°13'6	12'3	1°13'1	12'2	1°12'6	12'1	1°12'1	12'0	1°11'7	11'9	1°11'2	11'8
70	1°25'9	12'2	1°25'3	12'2	1°24'7	12'1	1°24'1	12'0	1°23'6	11'9	1°23'0	11'9
80	1°38'1	12'3	1°37'5	12'1	1°36'8	12'1	1°36'1	12'0	1°35'5	11'9	1°34'9	11'8
90	1°50'4	12'2	1°49'6	12'2	1°48'9	12'0	1°48'1	12'0	1°47'4	11'9	1°46'7	11'8
100	2° 2'6	12'2	2° 1'8	12'1	2° 0'9	12'1	2° 0'1	12'0	1°59'3	11'9	1°58'5	11'8
110	2°14'8	12'2	2°13'9	12'1	2°13'0	12'0	2°12'1	12'0	2°11'2	11'9	2°10'3	11'8
120	2°27'0	12'2	2°26'0	12'1	2°25'0	12'0	2°24'1	11'9	2°23'1	11'8	2°22'1	11'8
130	2°39'2	12'1	2°38'1	12'1	2°37'0	12'0	2°36'0	11'9	2°34'9	11'9	2°33'9	11'8
140	2°51'3	12'2	2°50'2	12'1	2°49'0	12'0	2°47'9	11'9	2°46'8	11'8	2°45'7	11'7
150	3° 3'5	12'1	3° 2'3	12'0	3° 1'0	12'0	2°59'8	11'9	2°58'6	11'8	2°57'4	11'7
160	3°15'6	12'1	3°14'3	12'0	3°13'0	12'0	3°11'7	11'9	3°10'4	11'8	3° 9'1	11'7
170	3°27'7	12'1	3°26'3	12'0	3°25'0	11'9	3°23'6	11'9	3°22'2	11'8	3°20'8	11'7
180	3°39'8	12'1	3°38'3	12'0	3°36'9	11'9	3°35'5	11'8	3°34'0	11'7	3°32'5	11'7
190	3°51'9	12'0	3°50'3	12'0	3°48'8	11'9	3°47'3	11'8	3°45'7	11'8	3°44'2	11'7
200	4° 3'9	12'0	4° 2'3	11'9	4° 0'7	11'9	3°59'1	11'8	3°57'5	11'7	3°55'9	11'6
210	4°15'9	12'0	4°14'2	11'9	4°12'6	11'8	4°10'9	11'8	4° 9'2	11'7	4° 7'5	11'6
220	4°27'9	12'0	4°26'1	11'9	4°24'4	11'8	4°22'7	11'7	4°20'9	11'7	4°19'1	11'6
230	4°39'9	11'9	4°38'0	11'9	4°36'2	11'8	4°34'4	11'7	4°32'6	11'6	4°30'7	11'6
240	4°51'8	11'9	4°49'9	11'9	4°48'0	11'8	4°46'1	11'7	4°44'2	11'6	4°42'3	11'5
250	5° 3'7	11'9	5° 1'8	11'8	4°59'8	11'7	4°57'8	11'7	4°55'8	11'6	4°53'8	11'5
260	5°15'6	11'9	5°13'6	11'8	5°11'5	11'7	5° 9'5	11'6	5° 7'4	11'5	5° 5'3	11'5
270	5°27'5	11'8	5°25'4	11'7	5°23'2	11'7	5°21'1	11'6	5°18'9	11'5	5°16'8	11'5
280	5°39'3	11'8	5°37'1	11'7	5°34'9	11'6	5°32'7	11'6	5°30'4	11'5	5°28'3	11'4
290	5°51'1	11'8	5°48'8	11'7	5°46'5	11'6	5°44'3	11'5	5°41'9	11'5	5°39'7	11'4
300	6° 2'9	11'7	6° 0'5	11'6	5°58'1	11'6	5°55'8	11'5	5°53'4	11'4	5°51'1	11'4
310	6°14'6	11'7	6°12'1	11'6	6° 9'7	11'6	6° 7'3	11'5	6° 4'8	11'4	6° 2'5	11'3
320	6°26'3	11'6	6°23'7	11'6	6°21'3	11'5	6°18'8	11'4	6°16'2	11'4	6°13'8	11'3
330	6°37'9	11'6	6°35'3	11'6	6°32'8	11'5	6°30'2	11'4	6°27'6	11'4	6°25'1	11'2
340	6°49'5	11'6	6°46'9	11'5	6°44'3	11'4	6°41'6	11'4	6°39'0	11'3	6°36'3	11'2
350	7° 1'1	11'5	6°58'4	11'5	6°55'7	11'4	6°53'0	11'3	6°50'3	11'2	6°47'5	11'2
360	7°12'6	11'5	7° 9'9	11'4	7° 7'1	11'3	7° 4'3	11'3	7° 1'5	11'2	6°58'7	11'2
370	7°24'1	11'5	7°21'3	11'4	7°18'4	11'3	7°15'6	11'2	7°12'7	11'2	7° 9'9	11'1
380	7°35'6	11'4	7°32'7	11'3	7°29'7	11'3	7°26'8	11'2	7°23'9	11'2	7°21'0	11'1
390	7°47'0	11'4	7°44'0	11'3	7°41'0	11'3	7°38'0	11'2	7°35'1	11'1	7°32'1	11'0
400	7°58'4	11'3	7°55'3	11'3	7°52'3	11'2	7°49'2	11'2	7°46'2	11'1	7°43'1	11'0
410	8° 9'7	11'3	8° 6'6	11'2	8° 3'5	11'1	8° 0'4	11'1	7°57'3	11'0	7°54'1	11'0
420	8°21'0	11'2	8°17'8	11'2	8°14'6	11'1	8°11'5	11'0	8° 8'3	11'0	8° 5'1	10'9
430	8°32'2	11'2	8°29'0	11'1	8°25'7	11'1	8°22'5	11'0	8°19'3	10'9	8°16'0	10'9
440	8°43'4	11'2	8°40'1	11'1	8°36'8	11'0	8°33'5	11'0	8°30'2	10'9	8°26'9	10'9
450	8°54'6	11'1	8°51'2	11'0	8°47'8	11'0	8°44'5	10'9	8°41'1	10'9	8°37'8	10'8
460	9° 5'7	11'0	9° 2'2	11'0	8°58'8	11'0	8°55'4	10'9	8°52'0	10'8	8°48'6	10'7
470	9°16'7	11'0	9°13'2	11'0	9° 9'8	10'9	9° 6'3	10'8	9° 2'8	10'8	9°59'3	10'7
480	9°27'7	11'0	9°24'2	10'9	9°20'7	10'8	9°17'1	10'8	9°13'6	10'7	9°10'0	10'7
490	9°38'7	10'9	9°35'1	10'9	9°31'5	10'8	9°27'9	10'7	9°24'3	10'7	9°20'7	10'6
500	9°49'6		9°46'0		9°42'3		9°38'6		9°35'0		9°31'3	

	1460	Diff.	1470	Diff.	1480	Diff.	1490	Diff.	1500	Diff.
0	0° 0'0	11'8	0° 0'0	11'7	0° 0'0	11'6	0° 0'0	11'5	0° 0'0	11'5
10	0°11'8	11'8	0°11'7	11'7	0°11'6	11'6	0°11'5	11'6	0°11'5	11'4
20	0°23'6	11'8	0°23'4	11'7	0°23'2	11'7	0°23'1	11'5	0°22'9	11'5
30	0°35'4	11'8	0°35'1	11'7	0°34'9	11'6	0°34'6	11'6	0°34'4	11'4
40	0°47'2	11'7	0°46'8	11'7	0°46'5	11'6	0°46'2	11'5	0°45'8	11'5
50	0°58'9	11'8	0°58'5	11'7	0°58'1	11'6	0°57'7	11'5	0°57'3	11'4
60	1°10'7	11'7	1°10'2	11'7	1° 9'7	11'6	1° 9'2	11'5	1° 8'7	11'5
70	1°22'4	11'8	1°21'9	11'7	1°21'3	11'6	1°20'7	11'5	1°20'2	11'4
80	1°34'2	11'7	1°33'6	11'6	1°32'9	11'6	1°32'2	11'5	1°31'6	11'4
90	1°45'9	11'8	1°45'2	11'7	1°44'5	11'6	1°43'7	11'5	1°43'0	11'4
100	1°57'7	11'7	1°56'9	11'6	1°56'1	11'5	1°55'2	11'5	1°54'4	11'4
110	2° 9'4	11'7	2° 8'5	11'7	2° 7'6	11'6	2° 6'7	11'5	2° 5'8	11'4
120	2°21'1	11'7	2°20'2	11'6	2°19'2	11'5	2°18'2	11'5	2°17'2	11'4
130	2°32'8	11'7	2°31'8	11'6	2°30'7	11'5	2°29'7	11'4	2°28'6	11'4
140	2°44'5	11'7	2°43'4	11'6	2°42'2	11'5	2°41'1	11'4	2°40'0	11'3
150	2°56'2	11'6	2°55'0	11'5	2°53'7	11'5	2°52'5	11'4	2°51'3	11'4
160	3° 7'8	11'7	3° 6'5	11'6	3° 5'2	11'5	3° 3'9	11'4	3° 2'7	11'3
170	3°19'5	11'6	3°18'1	11'5	3°16'7	11'5	3°15'3	11'4	3°14'0	11'3
180	3°31'1	11'6	3°29'6	11'5	3°28'2	11'4	3°26'7	11'4	3°25'3	11'3
190	3°42'7	11'6	3°41'1	11'5	3°39'6	11'4	3°38'1	11'4	3°36'6	11'2
200	3°54'3	11'5	3°52'6	11'5	3°51'0	11'4	3°49'5	11'3	3°47'8	11'3
210	4° 5'8	11'6	4° 4'1	11'5	4° 2'4	11'4	4° 0'8	11'3	3°59'1	11'2
220	4°17'4	11'5	4°15'6	11'4	4°13'8	11'4	4°12'1	11'3	4°10'3	11'2
230	4°28'9	11'5	4°27'0	11'4	4°25'2	11'3	4°23'4	11'2	4°21'5	11'2
240	4°40'4	11'4	4°38'4	11'4	4°36'5	11'3	4°34'6	11'3	4°32'7	11'2
250	4°51'8	11'5	4°49'8	11'4	4°47'8	11'3	4°45'9	11'2	4°43'9	11'1
260	5° 3'3	11'4	5° 1'2	11'3	4°59'1	11'3	4°57'1	11'2	4°55'0	11'1
270	5°14'7	11'4	5°12'5	11'3	5°10'4	11'2	5° 8'3	11'1	5° 6'1	11'1
280	5°26'1	11'3	5°23'8	11'3	5°21'6	11'2	5°19'4	11'1	5°17'2	11'1
290	5°37'4	11'3	5°35'1	11'3	5°32'8	11'2	5°30'5	11'1	5°28'3	11'0
300	5°48'7	11'3	5°46'4	11'2	5°44'0	11'2	5°41'6	11'1	5°39'3	11'0
310	6° 0'0	11'3	5°57'6	11'2	5°55'2	11'1	5°52'7	11'1	5°50'3	11'0
320	6°11'3	11'2	6° 8'8	11'1	6° 6'3	11'1	6° 3'8	11'0	6° 1'3	10'9
330	6°22'5	11'2	6°19'9	11'1	6°17'4	11'0	6°14'8	11'0	6°12'2	10'9
340	6°33'7	11'2	6°31'0	11'1	6°28'4	11'0	6°25'8	10'9	6°23'1	10'9
350	6°44'9	11'1	6°42'1	11'1	6°39'4	11'0	6°36'7	10'9	6°34'0	10'9
360	6°56'0	11'1	6°53'2	11'0	6°50'4	11'0	6°47'6	10'9	6°44'9	10'8
370	7° 7'1	11'0	7° 4'2	11'0	7° 1'4	10'9	6°58'5	10'9	6°55'7	10'8
380	7°18'1	11'0	7°15'2	11'0	7°12'3	10'9	7° 9'4	10'8	7° 6'5	10'7
390	7°29'1	11'0	7°26'2	10'9	7°23'2	10'8	7°20'2	10'8	7°17'2	10'7
400	7°40'1	10'9	7°37'1	10'9	7°34'0	10'8	7°31'0	10'7	7°27'9	10'7
410	7°51'0	10'9	7°48'0	10'8	7°44'8	10'8	7°41'7	10'7	7°38'6	10'7
420	8° 1'9	10'9	7°58'8	10'8	7°55'6	10'7	7°52'4	10'7	7°49'3	10'6
430	8°12'8	10'8	8° 9'6	10'7	8° 6'3	10'7	8° 3'1	10'6	7°59'9	10'6
440	8°23'6	10'8	8°20'3	10'7	8°17'0	10'7	8°13'7	10'6	8°10'5	10'5
450	8°34'4	10'7	8°31'0	10'7	8°27'7	10'6	8°24'3	10'6	8°21'0	10'5
460	8°45'1	10'7	8°41'7	10'7	8°38'3	10'6	8°34'9	10'5	8°31'5	10'4
470	8°55'8	10'7	8°52'4	10'6	8°48'9	10'5	8°45'4	10'5	8°41'9	10'4
480	9° 6'5	10'6	9° 3'0	10'5	8°59'4	10'5	8°55'9	10'4	8°52'3	10'4
490	9°17'1	10'6	9°13'5	10'5	9° 9'9	10'5	9° 6'3	10'4	9° 2'7	10'3
500	9°27'7		9°24'0		9°20'4		9°16'7		9°13'0	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 1500—1600.

	1500	Diff.	1510	Diff.	1520	Diff.	1530	Diff.	1540	Diff.	1550	Diff.
0	0° 0'0	11'5	0° 0'0	11'4	0° 0'0	11'3	0° 0'0	11'2	0° 0'0	11'2	0° 0'0	11'1
10	0°11'5	11'4	0°11'4	11'4	0°11'3	11'3	0°11'2	11'3	0°11'2	11'1	0°11'1	11'1
20	0°22'9	11'5	0°22'8	11'4	0°22'6	11'3	0°22'5	11'2	0°22'3	11'2	0°22'2	11'1
30	0°34'4	11'4	0°34'2	11'3	0°33'9	11'4	0°33'7	11'2	0°33'5	11'2	0°33'3	11'1
40	0°45'8	11'5	0°45'5	11'4	0°45'3	11'3	0°44'9	11'3	0°44'7	11'1	0°44'4	11'1
50	0°57'3	11'4	0°56'9	11'4	0°56'6	11'3	0°56'2	11'2	0°55'8	11'2	0°55'5	11'1
60	1° 8'7	11'5	1° 8'3	11'4	1° 7'9	11'3	1° 7'4	11'3	1° 7'0	11'2	1° 6'6	11'1
70	1°20'2	11'4	1°19'7	11'3	1°19'2	11'3	1°18'7	11'2	1°18'2	11'1	1°17'7	11'0
80	1°31'6	11'4	1°31'0	11'4	1°30'5	11'2	1°29'9	11'2	1°29'3	11'2	1°28'7	11'1
90	1°43'0	11'4	1°42'4	11'3	1°41'7	11'3	1°41'1	11'2	1°40'5	11'1	1°39'8	11'1
100	1°54'4	11'4	1°53'7	11'4	1°53'0	11'3	1°52'3	11'2	1°51'6	11'1	1°50'9	11'0
110	2° 5'8	11'4	2° 5'1	11'3	2° 4'3	11'2	2° 3'5	11'2	2° 2'7	11'1	2° 1'9	11'1
120	2°17'2	11'4	2°16'4	11'3	2°15'5	11'3	2°14'7	11'1	2°13'8	11'1	2°13'0	11'0
130	2°28'6	11'4	2°27'7	11'3	2°26'8	11'2	2°25'8	11'2	2°24'9	11'1	2°24'0	11'0
140	2°40'0	11'3	2°39'0	11'3	2°38'0	11'2	2°37'0	11'1	2°36'0	11'1	2°35'0	11'0
150	2°51'3	11'4	2°50'3	11'2	2°49'2	11'2	2°48'1	11'2	2°47'1	11'0	2°46'0	11'0
160	3° 2'7	11'3	3° 1'5	11'3	3° 0'4	11'2	2°59'3	11'1	2°58'1	11'1	2°57'0	11'0
170	3°14'0	11'3	3°12'8	11'2	3°11'6	11'1	3°10'4	11'1	3° 9'2	11'0	3° 8'0	10'9
180	3°25'3	11'3	3°24'0	11'2	3°22'7	11'2	3°21'5	11'1	3°20'2	11'0	3°18'9	11'0
190	3°36'6	11'2	3°35'2	11'2	3°33'9	11'1	3°32'6	11'0	3°31'2	11'0	3°29'9	10'9
200	3°47'8	11'3	3°46'4	11'2	3°45'0	11'1	3°43'6	11'1	3°42'2	11'0	3°40'8	10'9
210	3°59'1	11'2	3°57'6	11'2	3°56'1	11'1	3°54'7	11'0	3°53'2	10'9	3°51'7	10'9
220	4°10'3	11'2	4° 8'8	11'1	4° 7'2	11'1	4° 5'7	11'0	4° 4'1	11'0	4° 2'6	10'9
230	4°21'5	11'2	4°19'9	11'1	4°18'3	11'1	4°16'7	11'0	4°15'1	10'9	4°13'5	10'8
240	4°32'7	11'2	4°31'0	11'1	4°29'4	11'0	4°27'7	10'9	4°26'0	10'9	4°24'3	10'9
250	4°43'9	11'1	4°42'1	11'1	4°40'4	11'0	4°38'6	11'0	4°36'9	10'9	4°35'2	10'8
260	4°55'0	11'1	4°53'2	11'1	4°51'4	11'0	4°49'6	10'9	4°47'8	10'8	4°46'0	10'8
270	5° 6'1	11'1	5° 4'3	11'0	5° 2'4	10'9	5° 0'5	10'9	4°58'6	10'8	4°56'8	10'7
280	5°17'2	11'1	5°15'3	11'0	5°13'3	11'0	5°11'4	10'9	5° 9'4	10'8	5° 7'5	10'7
290	5°28'3	11'0	5°26'3	10'9	5°24'3	10'9	5°22'3	10'8	5°20'2	10'8	5°18'2	10'7
300	5°39'3	11'0	5°37'2	11'0	5°35'2	10'8	5°33'1	10'8	5°31'0	10'8	5°28'9	10'7
310	5°50'3	11'0	5°48'2	10'9	5°46'0	10'9	5°43'9	10'8	5°41'8	10'7	5°39'6	10'7
320	6° 1'3	10'9	5°59'1	10'9	5°56'9	10'8	5°54'7	10'7	5°52'5	10'7	5°50'3	10'6
330	6°12'2	10'9	6°10'0	10'8	6° 7'7	10'8	6° 5'4	10'8	6° 3'2	10'7	6° 0'9	10'6
340	6°23'1	10'9	6°20'8	10'8	6°18'5	10'8	6°16'2	10'7	6°13'9	10'6	6°11'5	10'6
350	6°34'0	10'9	6°31'6	10'8	6°29'3	10'7	6°26'9	10'6	6°24'5	10'6	6°22'1	10'5
360	6°44'9	10'8	6°42'4	10'8	6°40'0	10'7	6°37'5	10'7	6°35'1	10'6	6°32'6	10'6
370	6°55'7	10'8	6°53'2	10'7	6°50'7	10'7	6°48'2	10'6	6°45'7	10'5	6°43'2	10'5
380	7° 6'5	10'7	7° 3'9	10'7	7° 1'4	10'6	6°58'8	10'6	6°56'2	10'5	6°53'7	10'4
390	7°17'2	10'7	7°14'6	10'7	7°12'0	10'6	7° 9'4	10'5	7° 6'7	10'5	7° 4'1	10'4
400	7°27'9	10'7	7°25'3	10'6	7°22'6	10'5	7°19'9	10'5	7°17'2	10'4	7°14'5	10'4
410	7°38'6	10'7	7°35'9	10'6	7°33'1	10'6	7°30'4	10'5	7°27'6	10'5	7°24'9	10'4
420	7°49'3	10'6	7°46'5	10'5	7°43'7	10'5	7°40'9	10'4	7°38'1	10'4	7°35'3	10'3
430	7°59'9	10'6	7°57'0	10'5	7°54'2	10'4	7°51'3	10'4	7°48'5	10'3	7°45'6	10'3
440	8°10'5	10'5	8° 7'5	10'5	8° 4'6	10'4	8° 1'7	10'4	7°58'8	10'3	7°55'9	10'2
450	8°21'0	10'5	8°18'0	10'4	8°15'0	10'4	8°12'1	10'3	8° 9'1	10'3	8° 6'1	10'2
460	8°31'5	10'4	8°28'4	10'4	8°25'4	10'4	8°22'4	10'3	8°19'4	10'2	8°16'3	10'2
470	8°41'9	10'4	8°38'8	10'4	8°35'8	10'3	8°32'7	10'2	8°29'6	10'2	8°26'5	10'2
480	8°52'3	10'4	8°49'2	10'3	8°46'1	10'2	8°42'9	10'2	8°39'8	10'2	8°36'7	10'1
490	9° 2'7	10'3	8°59'5	10'3	8°56'3	10'3	8°53'1	10'2	8°50'0	10'1	8°46'8	10'1
500	9°13'0		9° 9'8		9° 6'6		9° 3'3		9° 0'1		8°56'9	

	1560	Diff.	1570	Diff.	1580	Diff.	1590	Diff.	1600	Diff.
0	0° 0'0	11'0	0° 0'0	11'0	0° 0'0	10'9	0° 0'0	10'8	0° 0'0	10'7
10	0°11'0	11'1	0°11'0	10'9	0°10'9	10'9	0°10'8	10'8	0°10'7	10'8
20	0°22'1	11'0	0°21'9	11'0	0°21'8	10'9	0°21'6	10'8	0°21'5	10'7
30	0°33'1	11'0	0°32'9	10'9	0°32'7	10'9	0°32'4	10'9	0°32'2	10'8
40	0°44'1	11'0	0°43'8	11'0	0°43'6	10'8	0°43'3	10'8	0°43'0	10'7
50	0°55'1	11'1	0°54'8	10'9	0°54'4	10'9	0°54'1	10'8	0°53'7	10'7
60	1° 6'2	11'0	1° 5'7	11'0	1° 5'3	10'9	1° 4'9	10'8	1° 4'4	10'8
70	1°17'2	11'0	1°16'7	10'9	1°16'2	10'8	1°15'7	10'7	1°15'2	10'7
80	1°28'2	11'0	1°27'6	10'9	1°27'0	10'9	1°26'4	10'8	1°25'9	10'7
90	1°39'2	11'0	1°38'5	10'9	1°37'9	10'8	1°37'2	10'8	1°36'6	10'7
100	1°50'2	10'9	1°49'4	10'9	1°48'7	10'9	1°48'0	10'8	1°47'3	10'7
110	2° 1'1	11'0	2° 0'3	10'9	1°59'6	10'8	1°58'8	10'7	1°58'0	10'7
120	2°12'1	10'9	2°11'2	10'9	2°10'4	10'8	2° 9'5	10'8	2° 8'7	10'7
130	2°23'0	11'0	2°22'1	10'9	2°21'2	10'8	2°20'3	10'7	2°19'4	10'6
140	2°34'0	10'9	2°33'0	10'9	2°32'0	10'8	2°31'0	10'7	2°30'0	10'7
150	2°44'9	11'0	2°43'9	10'8	2°42'8	10'8	2°41'7	10'7	2°40'7	10'6
160	2°55'9	10'9	2°54'7	10'9	2°53'6	10'8	2°52'4	10'7	2°51'3	10'7
170	3° 6'8	10'9	3° 5'6	10'8	3° 4'4	10'7	3° 3'1	10'7	3° 2'0	10'6
180	3°17'7	10'8	3°16'4	10'8	3°15'1	10'8	3°13'8	10'7	3°12'6	10'6
190	3°28'5	10'9	3°27'2	10'8	3°25'9	10'7	3°24'5	10'7	3°23'2	10'6
200	3°39'4	10'8	3°38'0	10'8	3°36'6	10'7	3°35'2	10'6	3°33'8	10'5
210	3°50'2	10'8	3°48'8	10'7	3°47'3	10'7	3°45'8	10'6	3°44'3	10'6
220	4° 1'0	10'8	3°59'5	10'8	3°58'0	10'6	3°56'4	10'6	3°54'9	10'5
230	4°11'8	10'8	4°10'3	10'7	4° 8'6	10'7	4° 7'0	10'6	4° 5'4	10'5
240	4°22'6	10'8	4°21'0	10'7	4°19'3	10'6	4°17'6	10'6	4°15'9	10'5
250	4°33'4	10'8	4°31'7	10'6	4°29'9	10'6	4°28'2	10'5	4°26'4	10'5
260	4°44'2	10'7	4°42'3	10'7	4°40'5	10'6	4°38'7	10'5	4°36'9	10'5
270	4°54'9	10'7	4°53'0	10'6	4°51'1	10'6	4°49'2	10'5	4°47'4	10'4
280	5° 5'6	10'6	5° 3'6	10'6	5° 1'7	10'5	4°59'7	10'5	4°57'8	10'4
290	5°16'2	10'7	5°14'2	10'6	5°12'2	10'5	5°10'2	10'5	5° 8'2	10'4
300	5°26'9	10'6	5°24'8	10'6	5°22'7	10'5	5°20'7	10'4	5°18'6	10'4
310	5°37'5	10'6	5°35'4	10'5	5°33'2	10'5	5°31'1	10'4	5°29'0	10'3
320	5°48'1	10'6	5°45'9	10'5	5°43'7	10'4	5°41'5	10'4	5°39'3	10'3
330	5°58'7	10'5	5°56'4	10'5	5°54'1	10'4	5°51'9	10'3	5°49'6	10'3
340	6° 9'2	10'5	6° 6'9	10'4	6° 4'5	10'4	6° 2'2	10'4	5°59'9	10'3
350	6°19'7	10'5	6°17'3	10'4	6°14'9	10'4	6°12'6	10'3	6°10'2	10'2
360	6°30'2	10'5	6°27'7	10'4	6°25'3	10'3	6°22'9	10'3	6°20'4	10'2
370	6°40'7	10'4	6°38'1	10'4	6°35'6	10'3	6°33'2	10'2	6°30'6	10'2
380	6°51'1	10'4	6°48'5	10'3	6°45'9	10'3	6°43'4	10'2	6°40'8	10'2
390	7° 1'5	10'3	6°58'8	10'3	6°56'2	10'3	6°53'6	10'2	6°51'0	10'1
400	7°11'8	10'4	7° 9'1	10'3	7° 6'5	10'2	7° 3'8	10'1	7° 1'1	10'1
410	7°22'2	10'3	7°19'4	10'3	7°16'7	10'2	7°13'9	10'1	7°11'2	10'1
420	7°32'5	10'2	7°29'7	10'2	7°26'9	10'1	7°24'1	10'1	7°21'3	10'0
430	7°42'7	10'2	7°39'9	10'2	7°37'0	10'1	7°34'2	10'0	7°31'3	10'0
440	7°52'9	10'2	7°50'1	10'1	7°47'1	10'1	7°44'2	10'0	7°41'3	10'0
450	8° 3'1	10'2	8° 0'2	10'1	7°57'2	10'1	7°54'2	10'0	7°51'3	9'9
460	8°13'3	10'1	8°10'3	10'1	8° 7'3	10'0	8° 4'2	10'0	8° 1'2	9'9
470	8°23'4	10'1	8°20'4	10'0	8°17'3	10'0	8°14'2	9'9	8°11'1	9'9
480	8°33'5	10'1	8°30'4	10'0	8°27'3	9'9	8°24'1	9'9	8°21'0	9'8
490	8°43'6	10'0	8°40'4	10'0	8°37'2	9'9	8°34'0	9'9	8°30'8	9'8
500	8°53'6		8°50'4		8°47'1		8°43'9		8°40'6	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 1600—1700.

	1600	Diff.	1610	Diff.	1620	Diff.	1630	Diff.	1640	Diff.	1650	Diff.	1660	Diff.	1670	Diff.	1680	Diff.	1690	Diff.	1700	Diff.
0	0° 0'0	10'7	0° 0'0	10'7	0° 0'0	10'6	0° 0'0	10'6	0° 0'0	10'5	0° 0'0	10'4	0° 0'0	10'4	0° 0'0	10'3	0° 0'0	10'2	0° 0'0	10'2	0° 0'0	10'1
10	0°10'7	10'8	0°10'7	10'7	0°10'6	10'6	0°10'6	10'5	0°10'5	10'5	0°10'4	10'5	0°10'4	10'3	0°10'3	10'3	0°10'2	10'3	0°10'2	10'2	0°10'1	10'1
20	0°21'5	10'7	0°21'4	10'6	0°21'2	10'7	0°21'1	10'6	0°21'0	10'5	0°20'9	10'4	0°20'7	10'4	0°20'6	10'3	0°20'5	10'2	0°20'4	10'1	0°20'2	10'1
30	0°32'2	10'8	0°32'0	10'7	0°31'9	10'6	0°31'7	10'5	0°31'5	10'5	0°31'3	10'4	0°31'1	10'3	0°30'9	10'3	0°30'7	10'2	0°30'5	10'2	0°30'3	10'1
40	0°43'0	10'7	0°42'7	10'7	0°42'5	10'6	0°42'2	10'5	0°42'0	10'4	0°41'7	10'4	0°41'4	10'4	0°41'2	10'3	0°40'9	10'3	0°40'7	10'2	0°40'4	10'1
50	0°53'7	10'7	0°53'4	10'7	0°53'1	10'6	0°52'7	10'6	0°52'4	10'5	0°52'1	10'4	0°51'8	10'4	0°51'5	10'3	0°51'2	10'2	0°50'9	10'1	0°50'5	10'1
60	1° 4'4	10'8	1° 4'1	10'6	1° 3'7	10'6	1° 3'3	10'5	1° 2'9	10'5	1° 2'5	10'5	1° 2'2	10'3	1° 1'8	10'3	1° 1'4	10'2	1° 1'0	10'2	1° 0'6	10'1
70	1°15'2	10'7	1°14'7	10'7	1°14'3	10'6	1°13'8	10'6	1°13'4	10'5	1°13'0	10'4	1°12'5	10'4	1°12'1	10'2	1°11'6	10'2	1°11'2	10'1	1°10'7	10'1
80	1°25'9	10'7	1°25'4	10'6	1°24'9	10'6	1°24'4	10'5	1°23'9	10'4	1°23'4	10'4	1°22'9	10'3	1°22'3	10'3	1°21'8	10'2	1°21'3	10'2	1°20'8	10'1
90	1°36'6	10'7	1°36'0	10'7	1°35'5	10'5	1°34'9	10'5	1°34'3	10'5	1°33'8	10'4	1°33'2	10'3	1°32'6	10'3	1°32'0	10'2	1°31'5	10'1	1°30'9	10'1
100	1°47'3	10'7	1°46'7	10'6	1°46'0	10'6	1°45'4	10'5	1°44'8	10'4	1°44'2	10'3	1°43'5	10'3	1°42'9	10'3	1°42'2	10'2	1°41'6	10'2	1°41'0	10'1
110	1°58'0	10'7	1°57'3	10'6	1°56'6	10'6	1°55'9	10'5	1°55'2	10'5	1°54'5	10'4	1°53'8	10'3	1°53'2	10'2	1°52'4	10'2	1°51'8	10'1	1°51'1	10'0
120	2° 8'7	10'7	2° 7'9	10'6	2° 7'2	10'5	2° 6'4	10'5	2° 5'7	10'4	2° 4'9	10'4	2° 4'1	10'3	2° 3'4	10'2	2° 2'6	10'2	2° 1'9	10'1	2° 1'1	10'1
130	2°19'4	10'6	2°18'5	10'6	2°17'7	10'6	2°16'9	10'5	2°16'1	10'4	2°15'3	10'3	2°14'4	10'3	2°13'6	10'3	2°12'8	10'2	2°12'0	10'1	2°11'2	10'0
140	2°30'0	10'7	2°29'1	10'6	2°28'3	10'5	2°27'4	10'5	2°26'5	10'4	2°25'6	10'4	2°24'7	10'3	2°23'9	10'2	2°23'0	10'2	2°22'1	10'1	2°21'2	10'1
150	2°40'7	10'6	2°39'7	10'6	2°38'8	10'5	2°37'9	10'4	2°36'9	10'4	2°36'0	10'3	2°35'0	10'3	2°34'1	10'2	2°33'2	10'1	2°32'2	10'1	2°31'3	10'0
160	2°51'3	10'7	2°50'3	10'6	2°49'3	10'5	2°48'3	10'5	2°47'3	10'4	2°46'3	10'3	2°45'3	10'3	2°44'3	10'2	2°43'3	10'2	2°42'3	10'1	2°41'3	10'0
170	3° 2'0	10'6	3° 0'9	10'6	2°59'8	10'5	2°58'8	10'4	2°57'7	10'4	2°56'6	10'3	2°55'6	10'2	2°54'5	10'2	2°53'5	10'1	2°52'4	10'1	2°51'3	10'0
180	3°12'6	10'6	3°11'5	10'5	3°10'3	10'5	3° 9'2	10'4	3° 8'1	10'3	3° 6'9	10'3	3° 5'8	10'3	3° 4'7	10'2	3° 3'6	10'1	3° 2'5	10'0	3° 1'3	10'0
190	3°23'2	10'6	3°22'0	10'5	3°20'8	10'5	3°19'6	10'4	3°18'4	10'4	3°17'2	10'3	3°16'1	10'2	3°14'9	10'1	3°13'7	10'1	3°12'5	10'1	3°11'3	10'0
200	3°33'8	10'5	3°32'5	10'5	3°31'3	10'4	3°30'0	10'4	3°28'8	10'3	3°27'5	10'3	3°26'3	10'2	3°25'0	10'2	3°23'8	10'1	3°22'6	10'0	3°21'3	10'0
210	3°44'3	10'6	3°43'0	10'5	3°41'7	10'5	3°40'4	10'4	3°39'1	10'3	3°37'8	10'2	3°36'5	10'2	3°35'2	10'1	3°33'9	10'0	3°32'6	10'0	3°31'3	9'9
220	3°54'9	10'5	3°53'5	10'5	3°52'2	10'4	3°50'8	10'3	3°49'4	10'3	3°48'0	10'3	3°46'7	10'2	3°45'3	10'1	3°43'9	10'1	3°42'6	10'0	3°41'2	10'0
230	4° 5'4	10'5	4° 4'0	10'4	4° 2'6	10'4	4° 1'1	10'4	3°59'7	10'3	3°58'3	10'2	3°56'9	10'1	3°55'4	10'1	3°54'0	10'0	3°52'6	10'0	3°51'2	9'9
240	4°15'9	10'5	4°14'4	10'5	4°13'0	10'3	4°11'5	10'3	4°10'0	10'2	4° 8'5	10'2	4° 7'0	10'2	4° 5'5	10'1	4° 4'0	10'1	4° 2'6	9'9	4° 1'1	9'9
250	4°26'4	10'5	4°24'9	10'4	4°23'3	10'4	4°21'8	10'3	4°20'2	10'3	4°18'7	10'2	4°17'2	10'1	4°15'6	10'1	4°14'1	10'0	4°12'5	10'0	4°11'0	9'9
260	4°36'9	10'5	4°35'3	10'4	4°33'7	10'3	4°32'1	10'3	4°30'5	10'2	4°28'9	10'2	4°27'3	10'1	4°25'7	10'0	4°24'1	10'0	4°22'5	9'9	4°20'9	9'8
270	4°47'4	10'4	4°45'7	10'4	4°44'0	10'3	4°42'4	10'2	4°40'7	10'2	4°39'1	10'1	4°37'4	10'1	4°35'7	10'1	4°34'1	9'9	4°32'4	9'9	4°30'7	9'9
280	4°57'8	10'4	4°56'1	10'3	4°54'3	10'3	4°52'6	10'3	4°50'9	10'2	4°49'2	10'1	4°47'5	10'0	4°45'8	10'0	4°44'0	10'0	4°42'3	9'9	4°40'6	9'8
290	5° 8'2	10'4	5° 6'4	10'4	5° 4'6	10'3	5° 2'9	10'2	5° 1'1	10'2	4°59'3	10'1	4°57'5	10'1	4°55'8	10'0	4°54'0	9'9	4°52'2	9'9	4°50'4	9'8
300	5°18'6	10'4	5°16'8	10'3	5°14'9	10'3	5°13'1	10'2	5°11'3	10'1	5° 9'4	10'1	5° 7'6	10'0	5° 5'8	9'9	5° 3'9	9'9	5° 2'1	9'8	5° 0'2	9'8
310	5°29'0	10'3	5°27'1	10'3	5°25'2	10'2	5°23'3	10'2	5°21'4	10'1	5°19'5	10'1	5°17'6	10'0	5°15'7	10'0	5°13'8	9'9	5°11'9	9'9	5°10'0	9'8
320	5°39'3	10'3	5°37'4	10'2	5°35'4	10'2	5°33'5	10'1	5°31'5	10'1	5°29'6	10'0	5°27'6	10'0	5°25'7	9'9	5°23'7	9'9	5°21'8	9'8	5°19'8	9'8
330	5°49'6	10'3	5°47'6	10'2	5°45'6	10'2	5°43'6	10'1	5°41'6	10'1	5°39'6	10'0	5°37'6	9'9	5°35'6	9'9	5°33'6	9'8	5°31'6	9'8	5°29'6	9'7
340	5°59'9	10'3	5°57'8	10'2	5°55'8	10'1	5°53'7	10'1	5°51'7	10'0	5°49'6	10'0	5°47'5	10'0	5°45'5	9'9	5°43'4	9'8	5°41'4	9'7	5°39'3	9'7
350	6°10'2	10'2	6° 8'0	10'2	6° 5'9	10'2	6° 3'8	10'1	6° 1'7	10'0	5°59'6	10'0	5°57'5	9'9	5°55'4	9'8	5°53'2	9'8	5°51'1	9'8	5°49'0	9'7
360	6°20'4	10'2	6°18'2	10'2	6°16'1	10'1	6°13'9	10'0	6°11'7	10'0	6° 9'6	9'9	6° 7'4	9'9	6° 5'2	9'8	6° 3'0	9'8	6° 0'9	9'7	5°58'7	9'7
370	6°30'6	10'2	6°28'4	10'1	6°26'2	10'1	6°23'9	10'1	6°21'7	10'0	6°19'5	9'9	6°17'3	9'8	6°15'0	9'8	6°12'8	9'8	6°10'6	9'7	6° 8'4	9'6
380	6°40'8	10'2	6°38'5	10'1	6°36'3	10'0	6°34'0	10'0	6°31'7	9'9	6°29'4	9'9	6°27'1	9'9	6°24'8	9'8	6°22'6	9'7	6°20'3	9'7	6°18'0	9'6
390	6°51'0	10'1	6°48'6	10'1	6°46'3	10'0	6°44'0	9'9	6°41'6	9'9	6°39'3	9'9	6°37'0	9'8	6°34'6	9'8	6°32'3	9'7	6°30'0	9'6	6°27'6	9'6
400	7° 1'1	10'1	6°58'7	10'0	6°56'3	10'0	6°53'9	10'0	6°51'5	9'9	6°49'2	9'8	6°46'8	9'8	6°44'4	9'7	6°42'0	9'7	6°39'6	9'6	6°37'2	9'6
410	7°11'2	10'1	7° 8'7	10'1	7° 6'3	10'0	7° 3'9	9'9	7° 1'4	9'9	6°59'0	9'8	6°56'6	9'7	6°54'1	9'7	6°51'7	9'6	6°49'2	9'6	6°46'8	9'5
420	7°21'3	10'0	7°18'8	10'0	7°16'3	9'9	7°13'8	9'9	7°11'3	9'8	7° 8'8	9'8	7° 6'3	9'7	7° 3'8	9'7	7° 1'3	9'6	6°58'8	9'6	6°56'3	9'5
430	7°31'3	10'0	7°28'8	9'9	7°26'2	9'9	7°23'7	9'8	7°21'1	9'8	7°18'6	9'7	7°16'0	9'7	7°13'5	9'6	7°10'9	9'6	7° 8'4	9'5	7° 5'8	9'5
440	7°41'3	10'0	7°38'7	9'9	7°36'1	9'9	7°33'5	9'8	7°30'9	9'8	7°28'3	9'7	7°25'7	9'7	7°23'1	9'6	7°20'5	9'6	7°17'9	9'5	7°15'3	9'5
450	7°51'3	9'9	7°48'6	9'9	7°46'0	9'8	7°43'3	9'8	7°40'7	9'7	7°38'0	9'7	7°35'4	9'6	7°32'7	9'6	7°30'1	9'5	7°27'4	9'5	7°24'8	9'4
460	8° 1'2	9'9	7°58'5	9'9	7°55'8	9'8	7°53'1	9'8	7°50'4	9'7	7°47'7	9'7	7°45'0	9'6	7°42'3	9'6	7°39'6	9'5	7°36'9	9'5	7°34'2	9'4
470	8°11'1	9'9	8° 8'4	9'8	8° 5'6	9'8	8° 2'9	9'7	8° 0'1	9'7	7°57'4	9'6	7°54'6	9'6	7°51'9	9'5	7°49'1	9'5	7°46'4	9'4	7°43'6	9'4
480	8°21'0	9'8	8°18'2	9'8	8°15'4	9'7	8°12'6	9'7	8° 9'8	9'6	8° 7'0	9'6	8° 4'2	9'6	8° 1'4	9'5	7°58'6	9'5	7°55'8	9'4	7°53'0	9'4
490	8°30'8	9'8	8°28'0	9'7	8°25'1	9'7	8°22'3	9'6	8°19'4	9'6	8°16'6	9'6	8°13'8	9'5	8°10'9	9'5	8° 8'1	9'4	8° 5'2	9'4	8° 2'4	9'3
500	8°40'6		8°37'7		8°34'8		8°31'9		8°29'0		8°26'2		8°23'3		8°20'4		8°17'5		8°14'6		8°11'7	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 1700—1800.

	1700	Diff.	1710	Diff.	1720	Diff.	1730	Diff.	1740	Diff.	1750	Diff.
0	0° 0'0	10'1	0° 0'0	10'1	0° 0'0	10'0	0° 0'0	9'9	0° 0'0	9'9	0° 0'0	9'8
10	0°10'1	10'1	0°10'1	10,0	0°10'0	10'0	0° 9'9	10'0	0° 9'9	9'9	0° 9'8	9'9
20	0°20'2	10'1	0°20'1	10'1	0°20'0	10'0	0°19'9	9'9	0°19'8	9'9	0°19'7	9'8
30	0°30'3	10'1	0°30'2	10'0	0°30'0	10'0	0°29'8	10'0	0°29'7	9'8	0°29'5	9'8
40	0°40'4	10'1	0°40'2	10'1	0°40'0	10'0	0°39'8	9'9	0°39'5	9'9	0°39'3	9'8
50	0°50'5	10'1	0°50'3	10'0	0°50'0	10'0	0°49'7	9'9	0°49'4	9'9	0°49'1	9'9
60	1° 0'6	10'1	1° 0'3	10'1	1° 0'0	10'0	0°59'6	10'0	0°59'3	9'9	0°59'0	9'8
70	1°10'7	10'1	1°10'4	10'0	1°10'0	9'9	1° 9'6	9'9	1° 9'2	9'8	1° 8'8	9'8
80	1°20'8	10'1	1°20'4	10'0	1°19'9	10'0	1°19'5	9'9	1°19'0	9'9	1°18'6	9'8
90	1°30'9	10'1	1°30'4	10'0	1°29'9	10'0	1°29'4	9'9	1°28'9	9'9	1°28'4	9'8
100	1°41'0	10'1	1°40'4	10'1	1°39'9	9'9	1°39'3	9'9	1°38'8	9'8	1°38'2	9'8
110	1°51'1	10'0	1°50'5	10'0	1°49'8	10'0	1°49'2	9'9	1°48'6	9'9	1°48'0	9'8
120	2° 1'1	10'1	2° 0'5	10'0	1°59'8	9'9	1°59'1	9'9	1°58'5	9'8	1°57'8	9'8
130	2°11'2	10'0	2°10'5	10'0	2° 9'7	10'0	2° 9'0	9'9	2° 8'3	9'8	2° 7'6	9'7
140	2°21'2	10'1	2°20'5	9'9	2°19'7	9'9	2°18'9	9'9	2°18'1	9'8	2°17'3	9'8
150	2°31'3	10'0	2°30'4	10'0	2°29'6	9'9	2°28'8	9'8	2°27'9	9'8	2°27'1	9'7
160	2°41'3	10'0	2°40'4	10'0	2°39'5	9'9	2°38'6	9'9	2°37'7	9'8	2°36'8	9'8
170	2°51'3	10'0	3°50'4	9'9	2°49'4	9'9	2°48'5	9'8	2°47'5	9'8	2°46'6	9'7
180	3° 1'3	10'0	3° 0'3	10'0	2°59'3	9'9	2°58'3	9'9	2°57'3	9'8	2°56'3	9'8
190	3°11'3	10,0	3°10'3	9'9	3° 9'2	9'9	3° 8'2	9'8	3° 7'1	9'8	3° 6'1	9'7
200	3°21'3	10'0	3°20'2	9'9	3°19'1	9'8	3°18'0	9'8	3°16'9	9'7	3°15'8	9'7
210	3°31'3	9'9	3°30'1	9'9	3°28'9	9'9	3°27'8	9'8	3°26'6	9'8	3°25'5	9'6
220	3°41'2	10'0	3°40'0	9'9	3°38'8	9'8	3°37'6	9'7	3°36'4	9'7	3°35'1	9'7
230	3°51'2	9'9	3°49'9	9'9	3°48'6	9'8	3°47'3	9'8	3°46'1	9'7	3°44'8	9'7
240	4° 1'1	9'9	3°59'8	9'8	3°58'4	9'8	3°57'1	9'8	3°55'8	9'7	3°54'5	9'6
250	4°11'0	9'9	4° 9'6	9'8	4° 8'2	9'8	4° 6'9	9'7	4° 5'5	9'7	4° 4'1	9'6
260	4°20'9	9'8	4°19'4	9'9	4°18'0	9'8	4°16'6	9'7	4°15'2	9'6	4°13'7	9'6
270	4°30'7	9'9	4°29'3	9'8	4°27'8	9'7	4°26'3	9'7	4°24'8	9'7	4°23'3	9'6
280	4°40'6	9'8	4°39'1	9'8	4°37'5	9'8	4°36'0	9'7	4°34'5	9'6	4°32'9	9'6
290	4°50'4	9'8	4°48'9	9'7	4°47'3	9'7	4°45'7	9'6	4°44'1	9'6	4°42'5	9'6
300	5° 0'2	9'8	4°58'6	9'8	4°57'0	9'7	4°55'3	9'7	4°53'7	9'6	4°52'1	9'5
310	5°10'0	9'8	5° 8'4	9'7	5° 6'7	9'6	5° 5'0	9'6	5° 3'3	9'6	5° 1'6	9'5
320	5°19'8	9'8	5°18'1	9'7	5°16'3	9'7	5°14'6	9'6	5°12'9	9'5	5°11'1	9'5
330	5°29'6	9'7	5°27'8	9'7	5°26'0	9'6	5°24'2	9'6	5°22'4	9'5	5°20'6	9'5
340	5°39'3	9'7	5°37'5	9'6	5°35'6	9'6	5°33'8	9'5	5°31'9	9'5	5°30'1	9'5
350	5°49'0	9'7	5°47'1	9'7	5°45'2	9'6	5°43'3	9'6	5°41'4	9'5	5°39'6	9'4
360	5°58'7	9'7	5°56'8	9'6	5°54'8	9'6	5°52'9	9'5	5°50'9	9'5	5°49'0	9'4
370	6° 8'4	9'6	6° 6'4	9'6	6° 4'4	9'5	6° 2'4	9'5	6° 0'4	9'5	5°58'4	9'4
380	6°18'0	9'6	6°16'0	9'6	6°13'9	9'6	6°11'9	9'5	6° 9'9	9'4	6° 7'8	9'4
390	6°27'6	9'6	6°25'6	9'5	6°23'5	9'5	6°21'4	9'4	6°19'3	9'4	6°17'2	9'3
400	6°37'2	9'6	6°35'1	9'5	6°33'0	9'4	6°30'8	9'4	6°28'7	9'4	6°26'5	9'4
410	6°46'8	9'5	6°44'6	9'5	6°42'4	9'5	6°40'2	9'4	6°38'1	9'3	6°35'9	9'3
420	6°56'3	9'5	6°54'1	9'5	6°51'9	9'4	6°49'6	9'4	6°47'4	9'3	6°45'2	9'3
430	7° 5'8	9'5	7° 3'6	9'4	7° 1'3	9'4	6°59'0	9'4	6°56'7	9'3	6°54'5	9'2
440	7°15'3	9'5	7°13'0	9'4	7°10'7	9'4	7° 8'4	9'3	7° 6'0	9'3	7° 3'7	9'3
450	7°24'8	9'4	7°22'4	9'4	7°20'1	9'3	7°17'7	9'3	7°15'3	9'3	7°13'0	9'2
460	7°34'2	9'4	7°31'8	9'4	7°29'4	9'3	7°27'0	9'3	7°24'6	9'2	7°22'2	9'1
470	7°43'6	9'4	7°41'2	9'3	7°38'7	9'3	7°36'3	9'2	7°33'8	9'2	7°31'3	9'2
480	7°53'0	9'4	7°50'5	9'3	7°48'0	9'3	7°45'5	9'2	7°43'0	9'2	7°40'5	9'1
490	8° 2'4	9'3	7°59'8	9'3	7°57'3	9'2	7°54'7	9'2	7°52'2	9'1	7°49'6	9'1
500	8°11'7		8° 9'1		8° 6'5		8° 3'9		8° 1'3		7°58'7	

	1760	Diff.	1770	Diff.	1780	Diff.	1790	Diff.	1800	Diff.
0	0° 0'0	9'8	0° 0'0	9'7	0° 0'0	9'7	0° 0'0	9'6	0° 0'0	9'6
10	0° 9'8	9'8	0° 9'7	9'7	0° 9'7	9'6	0° 9'6	9'6	0° 9'6	9'5
20	0°19'6	9'7	0°19'4	9'8	0°19'3	9'7	0°19'2	9'6	0°19'1	9'6
30	0°29'3	9'8	0°29'2	9'7	0°29'0	9'7	0°28'8	9'6	0°28'7	9'5
40	0°39'1	9'8	0°38'9	9'7	0°38'7	9'6	0°38'4	9'6	0°38'2	9'6
50	0°48'9	9'7	0°48'6	9'7	0°48'3	9'7	0°48'0	9'6	0°47'8	9'5
60	0°58'6	9'8	0°58'3	9'7	0°58'0	9'6	0°57'6	9'6	0°57'3	9'5
70	1° 8'4	9'7	1° 8'0	9'7	1° 7'6	9'7	1° 7'2	9'6	1° 6'8	9'6
80	1°18'1	9'8	1°17'7	9'7	1°17'3	9'6	1°16'8	9'6	1°16'4	9'5
90	1°27'9	9'7	1°27'4	9'7	1°26'9	9'6	1°26'4	9'6	1°25'9	9'5
100	1°37'6	9'8	1°37'1	9'7	1°36'5	9'7	1°36'0	9'5	1°35'4	9'5
110	1°47'4	9'7	1°46'8	9'7	1°46'2	9'6	1°45'5	9'6	1°44'9	9'5
120	1°57'1	9'7	1°56'5	9'6	1°55'8	9'6	1°55'1	9'5	1°54'4	9'5
130	2° 6'8	9'7	2° 6'1	9'7	2° 5'4	9'6	2° 4'6	9'6	2° 3'9	9'5
140	2°16'5	9'7	2°15'8	9'6	2°15'0	9'6	2°14'2	9'5	2°13'4	9'5
150	2°26'2	9,7	2°25'4	9'7	2°24'6	9'6	2°23'7	9'6	2°22'9	9'5
160	2°35'9	9'7	2°35'1	9'6	2°34'2	9'6	2°33'3	9'5	2°32'4	9'5
170	2°45'6	9'7	2°44'7	9'6	2°43'8	9'5	2°42'8	9'5	2°41'9	9'4
180	2°55'3	9'7	2°54'3	9'6	2°53'3	9'6	2°52'3	9'5	2°51'3	9'5
190	3° 5'0	9'6	3° 3'9	9'6	3° 2'9	9'5	3° 1'8	9'5	3° 0'8	9'4
200	3°14'6	9'7	3°13'5	9'6	3°12'4	9'6	3°11'3	9'5	3°10'2	9'4
210	3°24'3	9'6	3°23'1	9'6	3°22'0	9'5	3°20'8	9'5	3°19'6	9'4
220	3°33'9	9'6	3°32'7	9'6	3°31'5	9'5	3°30'3	9'4	3°29'0	9'4
230	3°43'5	9'6	3°42'3	9'5	3°41'0	9'5	3°39'7	9'5	3°38'4	9'4
240	3°53'1	9'6	3°51'8	9'6	3°50'5	9'5	3°49'2	9'4	3°47'8	9'4
250	4° 2'7	9'6	4° 1'4	9'5	4° 0'0	9'5	3°58'6	9'4	3°57'2	9'4
260	4°12'3	9'6	4°10'9	9'5	4° 9'5	9'4	4° 8'0	9'4	4° 6'6	9'3
270	4°21'9	9'5	4°20'4	9'5	4°18'9	9'4	4°17'4	9'4	4°15'9	9'4
280	4°31'4	9'5	4°29'9	9'4	4°28'3	9'4	4°26'8	9'4	4°25'3	9'3
290	4°40'9	9'5	4°39'3	9'5	4°37'7	9'4	4°36'2	9'3	4°34'6	9'3
300	4°50'4	9'5	4°48'8	9'4	4°47'1	9'4	4°45'5	9'4	4°43'9	9'3
310	4°59'9	9'5	4°58'2	9'4	4°56'5	9'4	4°54'9	9'3	4°53'2	9'2
320	5° 9'4	9'4	5° 7'6	9'4	5° 5'9	9'4	5° 4'2	9'3	5° 2'4	9'3
330	5°18'8	9'5	5°17'0	9'4	5°15'3	9'3	5°13'5	9'3	5°11'7	9'2
340	5°28'3	9'4	5°26'4	9'4	5°24'6	9'3	5°22'8	9'2	5°20'9	9'2
350	5°37'7	9'4	5°35'8	9'3	5°33'9	9'3	5°32'0	9'3	5°30'1	9'2
360	5°47'1	9'3	5°45'1	9'3	5°43'2	9'3	5°41'3	9'2	5°39'3	9'2
370	5°56'4	9'4	5°54'4	9'3	5°52'5	9'2	5°50'5	9'2	5°48'5	9'1
380	6° 5'8	9'3	6° 3'7	9'3	6° 1'7	9'2	5°59'7	9'2	5°57'6	9'2
390	6°15'1	9'3	6°13'0	9'3	6°10'9	9'2	6° 8'9	9'1	6° 6'8	9'1
400	6°24'4	9'3	6°22'3	9'2	6°20'1	9'2	6°18'0	9'1	6°15'9	9'1
410	6°33'7	9'2	6°31'5	9'2	6°29'3	9'2	6°27'1	9'1	6°25'0	9'0
420	6°42'9	9'3	6°40'7	9'2	6°38'5	9'1	6°36'2	9'1	6°34'0	9'1
430	6°52'2	9'2	6°49'9	9'2	6°47'6	9'1	6°45'3	9'1	6°43'1	9'0
440	7° 1'4	9'2	6°59'1	9'1	6°56'7	9'1	6°54'4	9'1	6°52'1	9'0
450	7°10'6	9'1	7° 8'2	9'1	7° 5'8	9'1	7° 3'5	9'0	7° 1'1	9'0
460	7°19'7	9'2	7°17'3	9'1	7°14'9	9'0	7°12'5	9'0	7°10'1	8'9
470	7°28'9	9'1	7°26'4	9'1	7°23'9	9'1	7°21'5	8'9	7°19'0	8'9
480	7°38'0	9'1	7°35'5	9'0	7°33'0	9'0	7°30'4	9'0	7°27'9	8'9
490	7°47'1	9'0	7°44'5	9'0	7°42'0	8'9	7°39'4	8'9	7°36'8	8'9
500	7°56'1		7°53'5		7°50'9		7°48'3		7°45'7	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 1800 — 1900.

	1800	Diff.	1810	Diff.	1820	Diff.	1830	Diff.	1840	Diff.	1850	Diff.	1860	Diff.	1870	Diff.	1880	Diff.	1890	Diff.	1900	Diff.
0	0° 0'0		0° 0'0		0° 0'0		0° 0'0		0° 0'0		0° 0'0		0° 0'0		0° 0'0		0° 0'0		0° 0'0		0° 0'0	
10	0° 9'6	9'6	0° 9'5	9'5	0° 9'5	9'5	0° 9'4	9'4	0° 9'3	9'3	0° 9'3	9'3	0° 9'2	9'2	0° 9'2	9'2	0° 9'1	9'1	0° 9'1	9'1	0° 9'0	9'0
20	0°19'1	9'5	0°19'0	9'5	0°18'9	9'4	0°18'8	9'4	0°18'7	9'4	0°18'6	9'3	0°18'5	9'3	0°18'4	9'2	0°18'3	9'2	0°18'2	9'1	0°18'1	9'1
30	0°28'7	9'6	0°28'5	9'5	0°28'4	9'5	0°28'2	9'4	0°28'0	9'3	0°27'9	9'3	0°27'7	9'2	0°27'6	9'2	0°27'4	9'1	0°27'3	9'1	0°27'1	9'0
40	0°38'2	9'5	0°38'0	9'5	0°37'8	9'4	0°37'6	9'4	0°37'4	9'4	0°37'2	9'3	0°37'0	9'3	0°36'8	9'2	0°36'6	9'2	0°36'4	9'1	0°36'2	9'1
50	0°47'8	9'6	0°47'5	9'5	0°47'3	9'5	0°47'0	9'4	0°46'7	9'3	0°46'5	9'3	0°46'2	9'2	0°46'0	9'2	0°45'7	9'1	0°45'5	9'1	0°45'2	9'0
60	0°57'3	9'5	0°57'0	9'5	0°56'7	9'4	0°56'4	9'4	0°56'1	9'4	0°55'8	9'3	0°55'5	9'3	0°55'2	9'2	0°54'9	9'2	0°54'6	9'1	0°54'3	9'1
70	1° 6'8	9'5	1° 6'5	9'5	1° 6'1	9'4	1° 5'8	9'4	1° 5'4	9'3	1° 5'1	9'3	1° 4'7	9'2	1° 4'4	9'2	1° 4'0	9'1	1° 3'7	9'1	1° 3'3	9'0
80	1°16'4	9'6	1°16'0	9'5	1°15'6	9'5	1°15'2	9'4	1°14'7	9'3	1°14'3	9'2	1°13'9	9'2	1°13'5	9'1	1°13'1	9'1	1°12'7	9'0	1°12'3	9'0
90	1°25'9	9'5	1°25'4	9'4	1°25'0	9'4	1°24'5	9'3	1°24'1	9'4	1°23'6	9'3	1°23'2	9'3	1°22'7	9'2	1°22'3	9'2	1°21'8	9'1	1°21'4	9'1
100	1°35'4	9'5	1°34'9	9'5	1°34'4	9'4	1°33'9	9'4	1°33'4	9'3	1°32'9	9'3	1°32'4	9'2	1°31'9	9'2	1°31'4	9'1	1°30'9	9'1	1°30'4	9'0
110	1°44'9	9'5	1°44'4	9'5	1°43'8	9'4	1°43'3	9'4	1°42'7	9'3	1°42'2	9'3	1°41'6	9'2	1°41'1	9'2	1°40'5	9'1	1°40'0	9'1	1°39'4	9'0
120	1°54'4	9'5	1°53'8	9'4	1°53'2	9'4	1°52'6	9'3	1°52'0	9'3	1°51'4	9'2	1°50'8	9'2	1°50'2	9'1	1°49'6	9'1	1°49'0	9'0	1°48'4	9'0
130	2° 3'9	9'5	2° 3'3	9'5	2° 2'6	9'4	2° 2'0	9'4	2° 1'3	9'3	2° 0'7	9'3	2° 0'0	9'2	1°59'4	9'2	1°58'7	9'1	1°58'1	9'1	1°57'4	9'0
140	2°13'4	9'5	2°12'7	9'4	2°12'0	9'4	2°11'3	9'3	2°10'6	9'3	2° 9'9	9'2	2° 9'2	9'2	2° 8'5	9'1	2° 7'8	9'1	2° 7'1	9'0	2° 6'4	9'0
150	2°22'9	9'5	2°22'2	9'5	2°21'4	9'4	2°20'7	9'4	2°19'9	9'3	2°19'2	9'3	2°18'4	9'2	2°17'7	9'2	2°16'9	9'1	2°16'2	9'1	2°15'4	9'0
160	2°32'4	9'5	2°31'6	9'4	2°30'8	9'4	2°30'0	9'3	2°29'2	9'3	2°28'4	9'2	2°27'6	9'2	2°26'8	9'1	2°26'0	9'1	2°25'2	9'0	2°24'4	9'0
170	2°41'9	9'5	2°41'0	9'4	2°40'2	9'4	2°39'3	9'3	2°38'5	9'3	2°37'6	9'2	2°36'8	9'2	2°35'9	9'1	2°35'1	9'1	2°34'3	9'1	2°33'4	9'0
180	2°51'3	9'4	2°50'4	9'4	2°49'5	9'3	2°48'6	9'3	2°47'7	9'2	2°46'8	9'2	2°45'9	9'1	2°45'0	9'1	2°44'2	9'1	2°43'3	9'0	2°42'4	9'0
190	3° 0'8	9'5	2°59'8	9'4	2°58'9	9'4	2°57'9	9'3	2°57'0	9'3	2°56'0	9'2	2°55'1	9'2	2°54'1	9'1	2°53'2	9'0	2°52'3	9'0	2°51'3	8'9
200	3°10'2	9'4	3° 9'2	9'4	3° 8'2	9'3	3° 7'2	9'3	3° 6'2	9'2	3° 5'2	9'2	3° 4'2	9'1	3° 3'2	9'1	3° 2'3	9'1	3° 1'3	9'0	3° 0'3	9'0
210	3°19'6	9'4	3°18'6	9'4	3°17'6	9'4	3°16'5	9'3	3°15'5	9'3	3°14'4	9'2	3°13'4	9'2	3°12'3	9'1	3°11'3	9'0	3°10'3	9'0	3° 9'2	8'9
220	3°29'0	9'4	3°28'0	9'4	3°26'9	9'3	3°25'8	9'3	3°24'7	9'2	3°23'6	9'2	3°22'5	9'1	3°21'4	9'1	3°20'3	9'0	3°19'2	8'9	3°18'2	9'0
230	3°38'4	9'4	3°37'3	9'3	3°36'2	9'3	3°35'0	9'2	3°33'9	9'2	3°32'8	9'2	3°31'6	9'1	3°30'5	9'1	3°29'4	9'1	3°28'2	9'0	3°27'1	8'9
240	3°47'8	9'4	3°46'7	9'4	3°45'5	9'3	3°44'3	9'3	3°43'1	9'2	3°41'9	9'1	3°40'7	9'1	3°39'5	9'0	3°38'4	9'0	3°37'2	9'0	3°36'0	8'9
250	3°57'2	9'4	3°56'0	9'3	3°54'8	9'3	3°53'5	9'2	3°52'3	9'2	3°51'1	9'2	3°49'8	9'1	3°48'6	9'1	3°47'4	9'0	3°46'1	8'9	3°44'9	8'9
260	4° 6'6	9'4	4° 5'3	9'3	4° 4'0	9'2	4° 2'7	9'2	4° 1'5	9'2	4° 0'2	9'1	3°58'9	9'1	3°57'6	9'0	3°56'3	8'9	3°55'0	8'9	3°53'8	8'9
270	4°15'9	9'3	4°14'6	9'3	4°13'3	9'3	4°11'9	9'2	4°10'6	9'1	4° 9'3	9'1	4° 8'0	9'1	4° 6'6	9'0	4° 5'3	9'0	4° 4'0	9'0	4° 2'6	8'8
280	4°25'3	9'4	4°23'9	9'3	4°22'5	9'2	4°21'1	9'2	4°19'8	9'2	4°18'4	9'1	4°17'0	9'0	4°15'6	9'0	4°14'3	9'0	4°12'9	8'9	4°11'5	8'9
290	4°34'6	9'3	4°33'2	9'3	4°31'7	9'2	4°30'3	9'2	4°28'9	9'1	4°27'5	9'1	4°26'1	9'1	4°24'6	9'0	4°23'2	8'9	4°21'8	8'9	4°20'3	8'8
300	4°43'9	9'3	4°42'4	9'2	4°40'9	9'2	4°39'5	9'2	4°38'0	9'1	4°36'5	9'0	4°35'1	9'0	4°33'6	9'0	4°32'1	8'9	4°30'7	8'9	4°29'2	8'9
310	4°53'2	9'3	4°51'7	9'3	4°50'1	9'2	4°48'6	9'1	4°47'1	9'1	4°45'6	9'1	4°44'1	9'0	4°42'6	9'0	4°41'0	8'9	4°39'5	8'8	4°38'0	8'8
320	5° 2'4	9'2	5° 0'9	9'2	4°59'3	9'2	4°57'7	9'1	4°56'2	9'1	4°54'6	9'0	4°53'1	9'0	4°51'5	8'9	4°49'9	8'9	4°48'4	8'9	4°46'8	8'8
330	5°11'7	9'3	5°10'1	9'2	5° 8'5	9'2	5° 6'8	9'1	5° 5'2	9'0	5° 3'6	9'0	5° 2'0	8'9	5° 0'4	8'9	4°58'8	8'9	4°57'2	8'8	4°55'6	8'8
340	5°20'9	9'2	5°19'3	9'2	5°17'6	9'1	5°15'9	9'1	5°14'3	9'1	5°12'6	9'0	5°11'0	9'0	5° 9'3	8'9	5° 7'7	8'9	5° 6'0	8'8	5° 4'4	8'8
350	5°30'1	9'2	5°28'4	9'1	5°26'7	9'1	5°25'0	9'1	5°23'3	9'0	5°21'6	9'0	5°19'9	8'9	5°18'2	8'9	5°16'5	8'8	5°14'8	8'8	5°13'1	8'7
360	5°39'3	9'2	5°37'6	9'2	5°35'8	9'1	5°34'1	9'1	5°32'3	9'0	5°30'6	9'0	5°28'8	8'9	5°27'1	8'9	5°25'4	8'9	5°23'6	8'8	5°21'9	8'8
370	5°48'5	9'2	5°46'7	9'1	5°44'9	9'1	5°43'1	9'0	5°41'3	9'0	5°39'5	8'9	5°37'7	8'9	5°36'0	8'9	5°34'2	8'8	5°32'4	8'8	5°30'6	8'7
380	5°57'6	9'1	5°55'8	9'1	5°54'0	9'1	5°52'1	9'0	5°50'3	9'0	5°48'5	9'0	5°46'6	8'9	5°44'8	8'8	5°43'0	8'8	5°41'1	8'7	5°39'3	8'7
390	6° 6'8	9'2	6° 4'9	9'1	6° 3'0	9'0	6° 1'1	9'0	5°59'3	9'0	5°57'4	8'9	5°55'5	8'9	5°53'6	8'8	5°51'7	8'7	5°49'9	8'8	5°48'0	8'7
400	6°15'9	9'1	6°13'9	9'0	6°12'0	9'0	6°10'1	9'0	6° 8'2	8'9	6° 6'3	8'9	6° 4'3	8'8	6° 2'4	8'8	6° 0'5	8'8	5°58'6	8'7	5°56'7	8'7
410	6°25'0	9'1	6°23'0	9'1	6°21'0	9'0	6°19'1	9'0	6°17'1	8'9	6°15'1	8'8	6°13'2	8'9	6°11'2	8'8	6° 9'2	8'7	6° 7'3	8'7	6° 5'3	8'6
420	6°34'0	9'0	6°32'0	9'0	6°30'0	9'0	6°28'0	8'9	6°26'0	8'9	6°24'0	8'9	6°22'0	8'8	6°20'0	8'8	6°18'0	8'8	6°16'0	8'7	6°14'0	8'7
430	6°43'1	9'1	6°41'0	9'0	6°39'0	9'0	6°36'9	8'9	6°34'9	8'9	6°32'8	8'8	6°30'8	8'8	6°28'7	8'7	6°26'7	8'7	6°24'6	8'6	6°22'6	8'6
440	6°52'1	9'0	6°50'0	9'0	6°47'9	8'9	6°45'8	8'9	6°43'7	8'8	6°41'6	8'8	6°39'5	8'7	6°37'4	8'7	6°35'4	8'7	6°33'3	8'7	6°31'2	8'6
450	7° 1'1	9'0	6°59'0	9'0	6°56'8	8'9	6°54'7	8'9	6°52'5	8'8	6°50'4	8'8	6°48'3	8'8	6°46'1	8'7	6°44'0	8'6	6°41'9	8'6	6°39'8	8'6
460	7°10'1	9'0	7° 7'9	8'9	7° 5'7	8'9	7° 3'5	8'8	7° 1'3	8'8	6°59'2	8'8	6°57'0	8'7	6°54'8	8'7	6°52'6	8'6	6°50'5	8'6	6°48'3	8'5
470	7°19'0	8'9	7°16'8	8'9	7°14'6	8'9	7°12'4	8'9	7°10'1	8'8	7° 7'9	8'7	7° 5'7	8'7	7° 3'5	8'7	7° 1'3	8'7	6°59'1	8'6	6°56'8	8'5
480	7°27'9	8'9	7°25'7	8'9	7°23'4	8'8	7°21'2	8'8	7°18'9	8'8	7°16'6	8'7	7°14'4	8'7	7°12'1	8'6	7° 9'9	8'6	7° 7'6	8'5	7° 5'3	8'5
490	7°36'8	8'9	7°34'5	8'8	7°32'2	8'8	7°30'0	8'8	7°27'6	8'7	7°25'3	8'7	7°23'0	8'6	7°20'7	8'6	7°18'5	8'6	7°16'1	8'5	7°13'8	8'5
500	7°45'7	8'9	7°43'4	8'9	7°41'0	8'8	7°38'7	8'7	7°36'4	8'8	7°34'0	8'7	7°31'7	8'7	7°29'3	8'6	7°27'0	8'5	7°24'6	8'5	7°22'3	8'5

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 1900—2000.

	1900	Diff.	1910	Diff.	1920	Diff.	1930	Diff.	1940	Diff.	1950	Diff.	1960	Diff.	1970	Diff.	1980	Diff.	1990	Diff.	2000	Diff.
0	0° 0'0	9'0	0° 0'0	9'0	0° 0'0	9'0	0° 0'0	8'9	0° 0'0	8'9	0° 0'0	8'8	0° 0'0	8'8	0° 0'0	8'7	0° 0'0	8'7	0° 0'0	8'6	0° 0'0	8'6
10	0° 9'0	9'1	0° 9'0	9'0	0° 9'0	8'9	0° 8'9	8'9	0° 8'9	8'8	0° 8'8	8'8	0° 8'8	8'7	0° 8'7	8'8	0° 8'7	8'7	0° 8'6	8'7	0° 8'6	8'6
20	0°18'1	9'0	0°18'0	9'0	0°17'9	9'0	0°17'8	8'9	0°17'7	8'9	0°17'6	8'9	0°17'5	8'8	0°17'5	8'7	0°17'4	8'7	0°17'3	8'6	0°17'2	8'6
30	0°27'1	9'1	0°27'0	9'0	0°26'9	8'9	0°26'7	8'9	0°26'6	8'9	0°26'5	8'8	0°26'3	8'8	0°26'2	8'7	0°26'1	8'6	0°25'9	8'7	0°25'8	8'6
40	0°36'2	9'0	0°36'0	9'0	0°35'8	9'0	0°35'6	8'9	0°35'5	8'8	0°35'3	8'8	0°35'1	8'8	0°34'9	8'7	0°34'7	8'7	0°34'6	8'6	0°34'4	8'6
50	0°45'2	9'1	0°45'0	9'0	0°44'8	8'9	0°44'5	8'9	0°44'3	8'9	0°44'1	8'8	0°43'9	8'7	0°43'6	8'8	0°43'4	8'7	0°43'2	8'6	0°43'0	8'6
60	0°54'3	9'0	0°54'0	9'0	0°53'7	9'0	0°53'4	8'9	0°53'2	8'8	0°52'9	8'8	0°52'6	8'8	0°52'4	8'7	0°52'1	8'7	0°51'8	8'7	0°51'6	8'6
70	1° 3'3	9'0	1° 3'0	9'0	1° 2'7	8'9	1° 2'3	8'9	1° 2'0	8'9	1° 1'7	8'8	1° 1'4	8'7	1° 1'1	8'7	1° 0'8	8'6	1° 0'5	8'6	1° 0'2	8'5
80	1°12'3	9'1	1°12'0	9'0	1°11'6	9'0	1°11'2	8'9	1°10'9	8'8	1°10'5	8'8	1°10'1	8'8	1° 9'8	8'7	1° 9'4	8'7	1° 9'1	8'6	1° 8'7	8'6
90	1°21'4	9'0	1°21'0	8'9	1°20'6	8'9	1°20'1	8'9	1°19'7	8'9	1°19'3	8'8	1°18'9	8'7	1°18'5	8'7	1°18'1	8'7	1°17'7	8'6	1°17'3	8'6
100	1°30'4	9'0	1°29'9	9'0	1°29'5	8'9	1°29'0	8'9	1°28'6	8'8	1°28'1	8'8	1°27'6	8'8	1°27'2	8'7	1°26'8	8'6	1°26'3	8'6	1°25'9	8'6
110	1°39'4	9'0	1°38'9	9'0	1°38'4	9'0	1°37'9	8'9	1°37'4	8'9	1°36'9	8'8	1°36'4	8'7	1°35'9	8'7	1°35'4	8'7	1°34'9	8'6	1°34'5	8'5
120	1°48'4	9'0	1°47'9	8'9	1°47'4	8'9	1°46'8	8,9	1°46'3	8'8	1°45'7	8'8	1°45'1	8'8	1°44'6	8'7	1°44'1	8'6	1°43'5	8'6	1°43'0	8'6
130	1°57'4	9'0	1°56'8	9'0	1°56'3	8'9	1°55'7	8'8	1°55'1	8'8	1°54'5	8'8	1°53'9	8'7	1°53'3	8'7	1°52'7	8'7	1°52'1	8'6	1°51'6	8'5
140	2° 6'4	9'0	2° 5'8	9'0	2° 5'2	8'9	2° 4'5	8'9	2° 3'9	8'8	2° 3'3	8'8	2° 2'6	8'8	2° 2'0	8'7	2° 1'4	8'6	2° 0'7	8'6	2° 0'1	8'6
150	2°15'4	9'0	2°14'8	8'9	2°14'1	8'9	2°13'4	8'8	2°12'7	8'8	2°12'1	8'7	2°11'4	8'7	2°10'7	8'7	2°10'0	8'7	2° 9'3	8'6	2° 8'7	8'5
160	2°24'4	9'0	2°23'7	8'9	2°23'0	8'9	2°22'2	8'9	2°21'5	8'8	2°20'8	8'8	2°20'1	8'7	2°19'4	8'6	2°18'7	8'6	2°17'9	8'6	2°17'2	8'6
170	2°33'4	9'0	2°32'6	9'0	2°31'9	8'8	2°31'1	8'8	2°30'3	8'8	2°29'6	8'7	2°28'8	8'7	2°28'0	8'7	2°27'3	8'6	2°26'5	8'6	2°25'8	8'5
180	2°42'4	8'9	2°41'6	8'9	2°40'7	8'9	2°39'9	8'9	2°39'1	8'8	2°38'3	8'8	2°37'5	8'7	2°36'7	8'7	2°35'9	8'6	2°35'1	8'6	2°34'3	8'5
190	2°51'3	9'0	2°50'5	8'9	2°49'6	8'9	2°48'8	8'8	2°47'9	8'8	2°47'1	8'7	2°46'2	8'7	2°45'4	8'6	2°44'5	8'6	2°43'7	8'5	2°42'8	8'5
200	3° 0'3	8'9	2°59'4	8'9	2°58'5	8'8	2°57'6	8'8	2°56'7	8'8	2°55'8	8'7	2°54'9	8'7	2°54'0	8'6	2°53'1	8'6	2°52'2	8'6	2°51'3	8'5
210	3° 9'2	9'0	3° 8'3	8'9	3° 7'3	8'9	3° 6'4	8'8	3° 5'5	8'7	3° 4'5	8'7	3° 3'6	8'7	3° 2'6	8'7	3° 1'7	8'6	3° 0'8	8'5	2°59'8	8'5
220	3°18'2	8'9	3°17'2	8'8	3°16'2	8'8	3°15'2	8'8	3°14'2	8'8	3°13'2	8'7	3°12'3	8'6	3°11'3	8'6	3°10'3	8'6	3° 9'3	8'6	3° 8'3	8'5
230	3°27'1	8'9	3°26'0	8'9	3°25'0	8'8	3°24'0	8'8	3°23'0	8'7	3°21'9	8'7	3°20'9	8'7	3°19'9	8'6	3°18'9	8'5	3°17'9	8'5	3°16'8	8'5
240	3°36'0	8'9	3°34'9	8'9	3°33'8	8'8	3°32'8	8'7	3°31'7	8'7	3°30'6	8'7	3°29'6	8'6	3°28'5	8'6	3°27'4	8'6	3°26'4	8'5	3°25'3	8'5
250	3°44'9	8'9	3°43'8	8'8	3°42'6	8'8	3°41'5	8'8	3°40'4	8'7	3°39'3	8'7	3°38'2	8'6	3°37'1	8'6	3°36'0	8'5	3°34'9	8'5	3°33'8	8'4
260	3°53'8	8'8	3°52'6	8'9	3°51'4	8'8	3°50'3	8'7	3°49'1	8'7	3°48'0	8'7	3°46'8	8'6	3°45'7	8'6	3°44'5	8'6	3°43'4	8'5	3°42'2	8'5
270	4° 2'6	8'9	4° 1'5	8'8	4° 0'2	8'8	3°59'0	8'8	3°57'8	8'7	3°56'7	8'6	3°55'4	8'6	3°54'3	8'5	3°53'1	8'5	3°51'9	8'4	3°50'7	8'4
280	4°11'5	8'8	4°10'3	8'8	4° 9'0	8'8	4° 7'8	8'7	4° 6'5	8'7	4° 5'3	8'6	4° 4'0	8'6	4° 2'8	8'6	4° 1'6	8'5	4° 0'3	8'5	3°59'1	8'4
290	4°20'3	8'9	4°19'1	8'8	4°17'8	8'7	4°16'5	8'7	4°15'2	8'7	4°13'9	8'6	4°12'6	8'6	4°11'4	8'5	4°10'1	8'5	4° 8'8	8'4	4° 7'5	8'4
300	4°29'2	8'8	4°27'9	8'7	4°26'5	8'8	4°25'2	8'7	4°23'9	8'6	4°22'5	8'6	4°21'2	8'6	4°19'9	8'5	4°18'6	8'5	4°17'2	8'5	4°15'9	8'4
310	4°38'0	8'8	4°36'6	8'8	4°35'3	8'7	4°33'9	8'7	4°32'5	8'7	4°31'1	8'6	4°29'8	8'5	4°28'4	8'5	4°27'1	8'4	4°25'7	8'4	4°24'3	8'4
320	4°46'8	8'8	4°45'4	8'7	4°44'0	8'7	4°42'6	8'6	4°41'2	8'6	4°39'7	8'6	4°38'3	8'6	4°36'9	8'5	4°35'5	8'5	4°34'1	8'4	4°32'7	8'4
330	4°55'6	8'8	4°54'1	8'8	4°52'7	8'7	4°51'2	8'7	4°49'8	8'6	4°48'3	8'6	4°46'9	8'5	4°45'4	8'5	4°44'0	8'4	4°42'5	8'4	4°41'1	8'4
340	5° 4'4	8'7	5° 2'9	8'7	5° 1'4	8'7	4°59'9	8'6	4°58'4	8'6	4°56'9	8'6	4°55'4	8'5	4°53'9	8'5	4°52'4	8'5	4°50'9	8'4	4°49'5	8'3
350	5°13'1	8'8	5°11'6	8'7	5°10'1	8'6	5° 8'5	8'7	5° 7'0	8'6	5° 5'5	8'5	5° 3'9	8'5	5° 2'4	8'5	5° 0'9	8'4	4°59'3	8'4	4°57'8	8'3
360	5°21'9	8'7	5°20'3	8'7	5°18'7	8'7	5°17'2	8'6	5°15'6	8'5	5°14'0	8'5	5°12'4	8'5	5°10'9	8'4	5° 9'3	8'4	5° 7'7	8'4	5° 6'1	8'3
370	5°30'6	8'7	5°29'0	8'6	5°27'4	8'6	5°25'8	8'6	5°24'1	8'6	5°22'5	8'5	5°20'9	8'5	5°19'3	8'4	5°17'7	8'4	5°16'1	8'3	5°14'4	8'3
380	5°39'3	8'7	5°37'6	8'7	5°36'0	8'6	5°34'4	8'5	5°32'7	8'5	5°31'0	8'5	5°29'4	8'4	5°27'7	8'4	5°26'1	8'3	5°24'4	8'3	5°22'7	8'3
390	5°48'0	8'7	5°46'3	8'6	5°44'6	8'6	5°42'9	8'6	5°41'2	8'5	5°39'5	8'5	5°37'8	8'5	5°36'1	8'4	5°34'4	8'4	5°32'7	8'3	5°31'0	8'3
400	5°56'7	8'6	5°54'9	8'6	5°53'2	8'6	5°51'5	8'5	5°49'7	8'5	5°48'0	8'4	5°46'3	8'4	5°44'5	8'4	5°42'8	8'3	5°41'0	8'3	5°39'3	8'3
410	6° 5'3	8'7	6° 3'5	8'6	6° 1'8	8'5	6° 0'0	8'5	5°58'2	8'5	5°56'4	8'5	5°54'7	8'4	5°52'9	8'4	5°51'1	8'3	5°49'3	8'3	5°47'6	8'2
420	6°14'0	8'6	6°12'1	8'6	6°10'3	8'6	6° 8'5	8'5	6° 6'7	8'5	6° 4'9	8'4	6° 3'1	8'4	6° 1'3	8'3	5°59'4	8'3	5°57'6	8'3	5°55'8	8'2
430	6°22'6	8'6	6°20'7	8'6	6°18'9	8'5	6°17'0	8'5	6°15'2	8'4	6°13'3	8'4	6°11'5	8'3	6° 9'6	8'3	6° 7'7	8'3	6° 5'9	8'2	6° 4'0	8'2
440	6°31'2	8'6	6°29'3	8'5	6°27'4	8'5	6°25'5	8'4	6°23'6	8'4	6°21'7	8'4	6°19'8	8'4	6°17'9	8'3	6°16'0	8'3	6°14'1	8'2	6°12'2	8'2
450	6°39'8	8'5	6°37'8	8'5	6°35'9	8'5	6°33'9	8'5	6°32'0	8'4	6°30'1	8'3	6°28'2	8'3	6°26'2	8'3	6°24'3	8'2	6°22'3	8'2	6°20'4	8'2
460	6°48'3	8'5	6°46'3	8'5	6°44'4	8'4	6°42'4	8'4	6°40'4	8'4	6°38'4	8'4	6°36'5	8'3	6°34'5	8'3	6°32'5	8'3	6°30'5	8'2	6°28'6	8'1
470	6°56'8	8'5	6°54'8	8'5	6°52'8	8'5	6°50'8	8'4	6°48'8	8'4	6°46'8	8'3	6°44'8	8'3	6°42'8	8'2	6°40'8	8,2	6°38'7	8'2	6°36'7	8'2
480	7° 5'3	8'5	7° 3'3	8'5	7° 1'3	8'4	6°59'2	8'4	6°57'2	8'3	6°55'1	8'3	6°53'1	8'2	6°51'0	8'3	6°49'0	8'2	6°46'9	8'2	6°44'9	8'1
490	7°13'8	8'5	7°11'8	8'4	7° 9'7	8'4	7° 7'6	8'3	7° 5'5	8'3	7° 3'4	8'3	7° 1'3	8'3	6°59'3	8'2	6°57'2	8'1	6°55'1	8'1	6°53'0	8'1
500	7°22'3		7°20'2		7°18'1		7°15'9		7°13'8		7°11'7		7° 9'6		7° 7'5		7° 5'3		7° 3'2		7° 1'1	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 2000—2200.

	2000	Diff.	2020	Diff.	2040	Diff.	2060	Diff.	2080	Diff.	2100	Diff.
0	0° 0'0	8'6	0° 0'0	8'5	0° 0'0	8'4	0° 0'0	8'4	0° 0'0	8'3	0° 0'0	8'2
10	0° 8'6	8'6	0° 8'5	8'5	0° 8'4	8'5	0° 8'4	8'3	0° 8'3	8'3	0° 8'2	8'2
20	0°17'2	8'6	0°17'0	8'6	0°16'9	8'4	0°16'7	8'4	0°16'6	8'2	0°16'4	8'2
30	0°25'8	8'6	0°25'6	8'5	0°25'3	8,5	0°25'1	8'3	0°24'8	8'3	0°24'6	8'2
40	0°34'4	8'6	0°34'1	8,5	0°33'8	8'4	0°33'4	8'4	0°33'1	8'3	0°32'8	8'2
50	0°43'0	8'6	0°42'6	8'5	0°42'2	8'4	0°41'8	8'3	0°41'4	8'3	0°41'0	8'2
60	0°51'6	8'6	0°51'1	8'5	0°50'6	8'4	0°50'1	8'4	0°49'7	8'2	0°49'2	8'2
70	1° 0'2	8'5	0°59'6	8'5	0°59'0	8'5	0°58'5	8'3	0°57'9	8'3	0°57'4	8'2
80	1° 8'7	8'6	1° 8'1	8'5	1° 7'5	8'4	1° 6'8	8'4	1° 6'2	8'3	1° 5'6	8'2
90	1°17'3	8'6	1°16'6	8'5	1°15'9	8'4	1°15'2	8'3	1°14'5	8'2	1°13'8	8'2
100	1°25'9	8'6	1°25'1	8'5	1°24'3	8'4	1°23'5	8'4	1°22'7	8'3	1°22'0	8'2
110	1°34'5	8'5	1°33'6	8'5	1°32'7	8'4	1°31'9	8'3	1°31'0	8'3	1°30'2	8'1
120	1°43'0	8'6	1°42'1	8'5	1°41'1	8'4	1°40'2	8'3	1°39'3	8'2	1°38'3	8'2
130	1°51'6	8'5	1°50'6	8'4	1°49'5	8'4	1°48'5	8'4	1°47'5	8'3	1°46'5	8'2
140	2° 0'1	8'6	1°59'0	8'5	1°57'9	8'4	1°56'9	8'3	1°55'8	8'2	1°54'7	8'2
150	2° 8'7	8'5	2° 7'5	8'5	2° 6'3	8'4	2° 5'2	8'3	2° 4'0	8'3	2° 2'9	8'1
160	2°17'2	8'6	2°16'0	8'4	2°14'7	8'4	2°13'5	8'3	2°12'3	8'2	2°11'0	8'2
170	2°25'8	8'5	2°24'4	8'5	2°23'1	8'4	2°21'8	8'3	2°20'5	8'2	2°19'2	8'1
180	2°34'3	8'5	2°32'9	8'4	2°31'5	8'4	2°30'1	8'3	2°28'7	8'2	2°27'3	8'2
190	2°42'8	8'5	2°41'3	8'5	2°39'9	8'3	2°38'4	8'3	2°36'9	8'2	2°35'5	8'1
200	2°51'3	8'5	2°49'8	8'4	2°48'2	8'4	2°46'7	8'3	2°45'1	8'2	2°43'6	8'1
210	2°59'8	8'5	2°58'2	8'4	2°56'6	8'3	2°55'0	8'2	2°53'3	8'2	2°51'7	8'1
220	3° 8'3	8'5	3° 6'6	8'4	3° 4'9	8'4	3° 3'2	8'3	3° 1'5	8'2	2°59'8	8'1
230	3°16'8	8'5	3°15'0	8'4	3°13'3	8'3	3°11'5	8'2	3° 9'7	8'2	3° 7'9	8'1
240	3°25'3	8'5	3°23'4	8'4	3°21'6	8'3	3°19'7	8'3	3°17'9	8'2	3°16'0	8'1
250	3°33'8	8'4	3°31'8	8'4	3°29'9	8'3	3°28'0	8'2	3°26'1	8'1	3°24'1	8'1
260	3°42'2	8'5	3°40'2	8'4	3°38'2	8'3	3°36'2	8'2	3°34'2	8'2	3°32'2	8'1
270	3°50'7	8'4	3°48'6	8'3	3°46'5	8'3	3°44'4	8'2	3°42'4	8'1	3°40'3	8'1
280	3°59'1	8'4	3°56'9	8'4	3°54'8	8'3	3°52'6	8'2	3°50'5	8'1	3°48'4	8'0
290	4° 7'5	8'4	4° 5'3	8'3	4° 3'1	8'2	4° 0'8	8'2	3°58'6	8'1	3°56'4	8'0
300	4°15'9	8'4	4°13'6	8'4	4°11'3	8'3	4° 9'0	8'2	4° 6'7	8'1	4° 4'5	8'0
310	4°24'3	8'4	4°22'0	8'3	4°19'6	8'2	4°17'2	8'2	4°14'8	8'1	4°12'5	8'0
320	4°32'7	8'4	4°30'3	8'3	4°27'8	8'3	4°25'4	8'1	4°22'9	8'1	4°20'5	8'0
330	4°41'1	8'4	4°38'6	8'3	4°36'1	8'2	4°33'5	8'2	4°31'0	8'1	4°28'5	8'0
340	4°49'5	8'3	4°46'9	8'2	4°44'3	8'2	4°41'7	8'1	4°39,1	8'1	4°36'5	8'0
350	4°57'8	8'3	4°55'1	8'3	4°52'5	8'2	4°49'8	8'1	4°47'2	8'0	4°44'5	8'0
360	5° 6'1	8'3	5° 3'4	8'2	5° 0'7	8'1	4°57'9	8'1	4°55'2	8'0	4°52'5	7'9
370	5°14'4	8'3	5°11'6	8'3	5° 8'8	8'2	5° 6'0	8'1	5° 3'2	8'0	5° 0'4	8'0
380	5°22'7	8'3	5°19'9	8'2	5°17'0	8'1	5°14'1	8'1	5°11'2	8'0	5° 8'4	7'9
390	5°31'0	8'3	5°28'1	8'2	5°25'1	8'2	5°22'2	8'1	5°19'2	8'0	5°16'3	7'9
400	5°39'3	8'3	5°36'3	8'2	5°33'3	8'1	5°30'3	8'0	5°27'2	8'0	5°24'2	7'9
410	5°47'6	8'2	5°44'5	8'2	5°41'4	8'1	5°38'3	8'0	5°35'2	8'0	5°32'1	7'9
420	5°55'8	8'2	5°52'7	8'1	5°49'5	8'1	5°46'3	8'0	5°43'2	7'9	5°40'0	7'9
430	6° 4'0	8'2	6° 0'8	8'1	5°57'6	8'0	5°54'3	8'0	5°51'1	8'0	5°47'9	7'9
440	6°12'2	8'2	6° 8'9	8'1	6° 5'6	8'1	6° 2'3	8'0	5°59'1	7'9	5°55'8	7'8
450	6°20'4	8'2	6°17'0	8'1	6°13'7	8'0	6°10'3	8'0	6° 7'0	7'9	6° 3'6	7'9
460	6°28'6	8'1	6°25'1	8'1	6°21'7	8'0	6°18'3	8'0	6°14'9	7'9	6°11'5	7'8
470	6°36'7	8'2	6°33'2	8'1	6°29'7	8'0	6°26'3	7'9	6°22'8	7'8	6°19'3	7'8
480	6°44'9	8'1	6°41'3	8'1	6°37'7	8'0	6°34'2	7'9	6°30'6	7'9	6°27'1	7'7
490	6°53'0	8'1	6°49'4	8'0	6°45'7	8'0	6°42'1	7'9	6°38'5	7'8	6°34'8	7'8
500	7° 1'1		6°57'4		6°53'7		6°50'0		6°46'3		6°42'6	

	2120	Diff.	2140	Diff.	2160	Diff.	2180	Diff.	2200	Diff.
0	0° 0'0	8'1	0° 0'0	8'1	0° 0'0	8'0	0° 0'0	7'9	0° 0'0	7'8
10	0° 8'1	8'2	0° 8'1	8'0	0° 8'0	7'9	0° 7'9	7'9	0° 7'8	7'8
20	0°16'3	8'1	0°16'1	8'0	0°15'9	8'0	0°15'8	7'9	0°15'6	7'8
30	0°24'4	8'1	0°24'1	8'1	0°23'9	8'0	0°23'7	7'9	0°23'4	7'9
40	0°32'5	8'1	0°32'2	8'0	0°31'9	7'9	0°31'6	7'9	0°31'3	7'8
50	0°40'6	8'1	0°40'2	8'1	0°39'8	8'0	0°39'5	7'8	0°39'1	7'8
60	0°48'7	8'2	0°48'3	8'0	0°47'8	8'0	0°47'3	7'9	0°46'9	7'8
70	0°56'9	8'1	0°56'3	8'1	0°55'8	7'9	0°55'2	7'9	0°54'7	7'8
80	1° 5'0	8'1	1° 4'4	8'0	1° 3'7	8'0	1° 3'1	7'9	1° 2'5	7'8
90	1°13'1	8'1	1°12'4	8'0	1°11'7	7'9	1°11'0	7'9	1°10'3	7'8
100	1°21'2	8'1	1°20'4	8'0	1°19'6	8'0	1°18'9	7'8	1°18'1	7'8
110	1°29'3	8'1	1°28'4	8'1	1°27'6	7'9	1°26'7	7'9	1°25'9	7'8
120	1°37'4	8'1	1°36'5	8'0	1°35'5	8'0	1°34'6	7'9	1°33'7	7'8
130	1°45'5	8'1	1°44'5	8'0	1°43'5	7'9	1°42'5	7'8	1°41'5	7'7
140	1°53'6	8'1	1°52'5	8'0	1°51'4	8'0	1°50'3	7'9	1°49'2	7'8
150	2° 1'7	8'1	2° 0'5	8'0	1°59'4	7'9	1°58'2	7'8	1°57'0	7'8
160	2° 9'8	8'0	2° 8'5	8'0	2° 7'3	7'9	2° 6'0	7'9	2° 4'8	7'8
170	2°17'8	8'1	2°16'5	8'0	2°15'2	7'9	2°13'9	7'8	2°12'6	7'7
180	2°25'9	8'1	2°24'5	8'0	2°23'1	7'9	2°21'7	7'9	2°20'3	7'8
190	2°34'0	8'0	2°32'5	8'0	2°31'0	7'9	2°29'6	7'8	2°28'1	7'7
200	2°42'0	8'1	2°40'5	8'0	2°38'9	7'9	2°37'4	7'8	2°35'8	7'8
210	2°50'1	8'0	2°48'5	7'9	2°46'8	7'9	2°45'2	7'8	2°43'6	7'7
220	2°58'1	8'1	2°56'4	8'0	2°54'7	7'9	2°53'0	7'8	2°51'3	7'8
230	3° 6'2	8'0	3° 4'4	7'9	3° 2'6	7'9	3° 0'8	7'8	2°59'1	7'7
240	3°14'2	8'0	3°12'3	8'0	3°10'5	7'8	3° 8'6	7'8	3° 6'8	7'7
250	3°22'2	8'0	3°20'3	7'9	3°18'3	7'9	3°16'4	7'8	3°14'5	7'7
260	3°30'2	8'0	3°28'2	7'9	3°26'2	7'9	3°24'2	7'8	3°22'2	7'7
270	3°38'2	8'0	3°36'1	8'0	3°34'1	7'8	3°32'0	7'8	3°29'9	7'7
280	3°46'2	8'0	3°44'1	7'9	3°41'9	7'8	3°39'8	7'7	3°37'6	7'7
290	3°54'2	7'9	3°52'0	7'9	3°49'7	7'9	3°47'5	7'8	3°45'3	7'7
300	4° 2'1	8'0	3°59'9	7'8	3°57'6	7'8	3°55'3	7'7	3°53'0	7'6
310	4°10'1	8'0	4° 7'7	7'9	4° 5'4	7'8	4° 3'0	7'7	4° 0'6	7'7
320	4°18'1	7'9	4°15'6	7'9	4°13'2	7'8	4°10'7	7'7	4° 8'3	7'6
330	4°26'0	7'9	4°23'5	7'8	4°21'0	7'7	4°18'4	7'7	4°15'9	7'7
340	4°33'9	7'9	4°31'3	7'9	4°28'7	7'8	4°26'1	7'7	4°23'6	7'6
350	4°41'8	7'9	4°39'2	7'8	4°36'5	7'8	4°33'8	7'7	4°31'2	7'6
360	4°49'7	7'9	4°47'0	7'8	4°44'3	7'7	4°41'5	7'7	4°38'8	7'6
370	4°57'6	7'9	4°54'8	7'8	4°52'0	7'8	4°49'2	7'7	4°46'4	7'6
380	5° 5'5	7'9	5° 2'6	7'8	4°59'8	7'7	4°56'9	7'6	4°54'0	7'6
390	5°13'4	7'8	5°10'4	7'8	5° 7'5	7'7	5° 4'5	7'7	5° 1'6	7'6
400	5°21'2	7'9	5°18'2	7'8	5°15'2	7'7	5°12'2	7'6	5° 9'2	7'5
410	5°29'1	7'8	5°26'0	7'7	5°22'9	7'7	5°19'8	7'6	5°16'7	7'6
420	5°36'9	7'8	5°33'7	7'8	5°30'6	7'6	5°27'4	7'6	5°24'3	7'5
430	5°44'7	7'8	5°41'5	7'7	5°38'2	7'7	5°35'0	7'6	5°31'8	7'5
440	5°52'5	7'8	5°49'2	7'7	5°45'9	7'6	5°42'6	7'6	5°39'3	7'5
450	6° 0'3	7'7	5°56'9	7'7	5°53'5	7'7	5°50'2	7'5	5°46'8	7'5
460	6° 8'0	7'8	6° 4'6	7'7	6° 1'2	7'6	5°57'7	7'6	5°54'3	7'5
470	6°15'8	7'7	6°12'3	7'6	6° 8'8	7'6	6° 5'3	7'5	6° 1'8	7'4
480	6°23'5	7'7	6°19'9	7'7	6°16'4	7'6	6°12'8	7'5	6° 9'2	7'5
490	6°31'2	7'7	6°27'6	7'6	6°24'0	7'5	6°20'3	7'5	6°16'7	7,4
500	6°38'9		6°35'2		6°31'5		6°27'8		6°24'1	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 2200—2400.

	2200	Diff.	2220	Diff.	2240	Diff.	2260	Diff.	2280	Diff.	2300	Diff.
0	0° 0'0	7'8	0° 0'0	7'8	0° 0'0	7'7	0° 0'0	7'6	0° 0'0	7'6	0° 0'0	7'5
10	0° 7'8	7'8	0° 7'8	7'7	0° 7'7	7'7	0° 7'6	7'6	0° 7'6	7'5	0° 7'5	7'5
20	0°15'6	7'8	0°15'5	7'8	0°15'4	7'7	0°15'2	7'7	0°15'1	7'6	0°15'0	7'5
30	0°23'4	7'9	0°23'3	7'7	0°23'1	7'6	0°22'9	7'6	0°22'7	7'5	0°22'5	7'5
40	0°31'3	7'8	0°31'0	7'7	0°30'7	7'7	0°30'5	7'6	0°30'2	7'6	0°30'0	7'4
50	0°39'1	7'8	0°38'7	7'8	0°38'4	7'7	0°38'1	7'6	0°37'8	7'5	0°37'4	7'5
60	0°46'9	7'8	0°46'5	7'7	0°46'1	7'7	0°45'7	7'6	0°45'3	7'6	0°44'9	7'5
70	0°54'7	7'8	0°54'2	7'8	0°53'8	7'6	0°53'3	7'6	0°52'9	7'5	0°52'4	7'5
80	1° 2'5	7'8	1° 2'0	7'7	1° 1'4	7'7	1° 0'9	7'6	1° 0'4	7'5	0°59'9	7'5
90	1°10'3	7'8	1° 9'7	7'7	1° 9'1	7'7	1° 8'5	7'6	1° 7'9	7'6	1° 7'4	7'4
100	1°18'1	7'8	1°17'4	7'8	1°16'8	7'6	1°16'1	7'6	1°15'5	7'5	1°14'8	7'5
110	1°25'9	7'8	1°25'2	7'7	1°24'4	7'7	1°23'7	7'6	1°23'0	7'6	1°22'3	7'5
120	1°33'7	7'8	1°32'9	7'7	1°32'1	7'7	1°31'3	7'6	1°30'6	7'5	1°29'8	7'4
130	1°41'5	7'7	1°40'6	7'7	1°39'8	7'6	1°38'9	7'6	1°38'1	7'5	1°37'2	7'5
140	1°49'2	7'8	1°48'3	7'8	1°47'4	7'7	1°46'5	7'6	1°45'6	7'5	1°44'7	7'5
150	1°57'0	7'8	1°56'1	7'7	1°55'1	7'6	1°54'1	7'6	1°53'1	7'6	1°52'2	7'4
160	2° 4'8	7'8	2° 3'8	7'7	2° 2'7	7'7	2° 1'7	7'6	2° 0'7	7'5	1°59'6	7'5
170	2°12'6	7'7	2°11'5	7'7	2°10'4	7'6	2° 9'3	7'5	2° 8'2	7'5	2° 7'1	7'4
180	2°20'3	7'8	2°19'2	7'7	2°18'0	7'6	2°16'8	7'6	2°15'7	7'5	2°14'5	7'4
190	2°28'1	7'7	2°26'9	7'6	2°25'6	7'7	2°24'4	7'6	2°23'2	7'5	2°21'9	7'5
200	2°35'8	7'8	2°34'5	7'7	2°33'3	7'6	2°32'0	7'5	2°30'7	7'5	2°29'4	7'4
210	2°43'6	7'7	2°42'2	7'7	2°40'9	7'6	2°39'5	7'6	2°38'2	7'4	2°36'8	7'4
220	2°51'3	7'8	2°49'9	7'7	2°48'5	7'6	2°47'1	7'5	2°45'6	7'5	2°44'2	7'4
230	2°59'1	7'7	2°57'6	7'6	2°56'1	7'6	2°54'6	7'6	2°53'1	7'5	2°51'6	7'4
240	3° 6'8	7'7	3° 5'2	7'7	3° 3'7	7'6	3° 2'2	7'5	3° 0'6	7'5	2°59'0	7'4
250	3°14'5	7'7	3°12'9	7'6	3°11'3	7'6	3° 9'7	7'5	3° 8'1	7'4	3° 6'4	7'4
260	3°22'2	7'7	3°20'5	7'7	3°18'9	7'5	3°17'2	7'5	3°15'5	7'5	3°13'8	7'4
270	3°29'9	7'7	3°28'2	7'6	3°26'4	7'6	3°24'7	7'5	3°23'0	7'4	3°21'2	7'4
280	3°37'6	7'7	3°35'8	7'6	3°34'0	7'6	3°32'2	7'5	3°30'4	7'5	3°28'6	7'4
290	3°45'3	7'7	3°43'4	7'6	3°41'6	7'5	3°39'7	7'5	3°37'9	7'4	3°36'0	7'4
300	3°53'0	7'6	3°51'0	7'6	3°49'1	7'6	3°47'2	7'5	3°45'3	7'4	3°43'4	7'3
310	4° 0'6	7'7	3°58'6	7'6	3°56'7	7'5	3°54'7	7'5	3°52'7	7'4	3°50'7	7'4
320	4° 8'3	7'6	4° 6'2	7'6	4° 4'2	7'5	4° 2'2	7'4	4° 0'1	7'4	3°58'1	7'3
330	4°15'9	7'7	4°13'8	7'6	4°11'7	7'5	4° 9'6	7'5	4° 7'5	7'4	4° 5'4	7'3
340	4°23'6	7'6	4°21'4	7'6	4°19'2	7'5	4°17'1	7'4	4°14'9	7'4	4°12'7	7'4
350	4°31'2	7'6	4°29'0	7'5	4°26'7	7'5	4°24'5	7'4	4°22'3	7'4	4°20'1	7'3
360	4°38'8	7'6	4°36'5	7'6	4°34'2	7'5	4°31'9	7'5	4°29'7	7'3	4°27'4	7'3
370	4°46'4	7'6	4°44'1	7'5	4°41'7	7'5	4°39'4	7'4	4°37'0	7'4	4°34'7	7'3
380	4°54'0	7'6	4°51'6	7'5	4°49'2	7'4	4°46'8	7'4	4°44'4	7'3	4°42'0	7'2
390	5° 1'6	7'6	4°59'1	7'5	4°56'6	7'5	4°54'2	7'4	4°51'7	7'3	4°49'2	7'3
400	5° 9'2	7'5	5° 6'6	7'5	5° 4'1	7'4	5° 1'6	7'3	4°59'0	7'4	4°56'5	7'3
410	5°16'7	7'6	5°14'1	7'5	5°11'5	7'5	5° 8'9	7'4	5° 6'4	7'3	5° 3'8	7'2
420	5°24'3	7'5	5°21'6	7'5	5°19'0	7'4	5°16'3	7'4	5°13'7	7'3	5°11'0	7'3
430	5°31'8	7'5	5°29'1	7'4	5°26'4	7'4	5°23'7	7'3	5°21'0	7'3	5°18'3	7'2
440	5°39'3	7'5	5°36'5	7'5	5°33'8	7'4	5°31'0	7'3	5°28'3	7'2	5°25'5	7'2
450	5°46'8	7'5	5°44'0	7'4	5°41'2	7'3	5°38'3	7'4	5°35'5	7'3	5°32'7	7'2
460	5°54'3	7'5	5°51'4	7'4	5°48'5	7'4	5°45'7	7'3	5°42'8	7'2	5°39'9	7'2
470	6° 1'8	7'4	5°58'8	7'4	5°55'9	7'4	5°53'0	7'3	5°50'0	7'3	5°47'1	7'2
480	6° 9'2	7'5	6° 6'2	7'4	6° 3'3	7'3	6° 0'3	7'3	5°57'3	7'2	5°54'3	7'1
490	6°16'7	7'4	6°13'6	7'4	6°10'6	7'3	6° 7'6	7'2	6° 4'5	7'2	6° 1'4	7'2
500	6°24'1		6°21'0		6°17'9		6°14'8		6°11'7		6° 8'6	

	2320	Diff.	2340	Diff.	2360	Diff.	2380	Diff.	2400	Diff.
0	0° 0'0	7'4	0° 0'0	7'4	0° 0'0	7'3	0° 0'0	7'2	0° 0'0	7'2
10	0° 7'4	7'4	0° 7'4	7'3	0° 7'3	7'3	0° 7'2	7'3	0° 7'2	7'1
20	0°14'8	7'5	0°14'7	7'4	0°14'6	7'3	0°14'5	7'2	0°14'3	7'2
30	0°22'3	7'4	0°22'1	7'3	0°21'9	7'3	0°21'7	7'2	0°21'5	7'2
40	0°29'7	7'4	0°29'4	7'4	0°29'2	7'3	0°28'9	7'2	0°28'7	7'1
50	0°37'1	7'4	0°36'8	7'3	0°36'5	7'2	0°36'1	7'3	0°35'8	7'2
60	0°44'5	7'4	0°44'1	7'4	0°43'7	7'3	0°43'4	7'2	0°43'0	7'1
70	0°51'9	7'5	0°51'5	7'3	0°51'0	7'3	0°50'6	7'2	0°50'1	7'2
80	0°59'4	7'4	0°58'8	7'4	0°58'3	7'3	0°57'8	7'2	0°57'3	7'1
90	1° 6'8	7'4	1° 6'2	7'3	1° 5'6	7'3	1° 5'0	7'2	1° 4'4	7'2
100	1°14'2	7'4	1°13'5	7'4	1°12'9	7'3	1°12'2	7'2	1°11'6	7'1
110	1°21'6	7'4	1°20'9	7'3	1°20'2	7'2	1°19'4	7'3	1°18'7	7'2
120	1°29'0	7'4	1°28'2	7'4	1°27'4	7'3	1°26'7	7'2	1°25'9	7'1
130	1°36'4	7'4	1°35'6	7'3	1°34'7	7'3	1°33'9	7'2	1°33'0	7'2
140	1°43'8	7'4	1°42'9	7'3	1°42'0	7'2	1°41'1	7'2	1°40'2	7'1
150	1°51'2	7'4	1°50'2	7'3	1°49'2	7'3	1°48'3	7'2	1°47'3	7'1
160	1°58'6	7'4	1°57'5	7'4	1°56'5	7'3	1°55'5	7'2	1°54'4	7'2
170	2° 6'0	7'3	2° 4'9	7'3	2° 3'8	7'2	2° 2'7	7'1	2° 1'6	7'1
180	2°13'3	7'4	2°12'2	7'3	2°11'0	7'3	2° 9'8	7'2	2° 8'7	7'1
190	2°20'7	7'4	2°19'5	7'3	2°18'3	7'2	2°17'0	7'2	2°15'8	7'1
200	2°28'1	7'4	2°26'8	7'3	2°25'5	7'2	2°24'2	7'2	2°22'9	7'1
210	2°35'5	7'3	2°34'1	7'3	2°32'7	7'3	2°31'4	7'2	2°30'0	7'1
220	2°42'8	7'4	2°41'4	7'3	2°40'0	7'2	2°38'6	7'1	2°37'1	7'1
230	2°50'2	7'3	2°48'7	7'3	2°47'2	7'2	2°45'7	7'2	2°44'2	7'1
240	2°57'5	7'3	2°56'0	7'2	2°54'4	7'2	2°52'9	7'1	2°51'3	7'1
250	3° 4'8	7'4	3° 3'2	7'3	3° 1'6	7'2	3° 0'0	7'2	2°58'4	7'1
260	3°12'2	7'3	3°10'5	7'3	3° 8'8	7'2	3° 7'2	7'1	3° 5'5	7'1
270	3°19'5	7'3	3°17'8	7'2	3°16'0	7'2	3°14'3	7'2	3°12'6	7'0
280	3°26'8	7'3	3°25'0	7'3	3°23'2	7'2	3°21'5	7'1	3°19'6	7'1
290	3°34'1	7'3	3°32'3	7'2	3°30'4	7'2	3°28'6	7'1	3°26'7	7'0
300	3°41'4	7'3	3°39'5	7'2	3°37'6	7'2	3°35'7	7'1	3°33'7	7'1
310	3°48'7	7'3	3°46'7	7'3	3°44'8	7'1	3°42'8	7'1	3°40'8	7'0
320	3°56'0	7'3	3°54'0	7'2	3°51'9	7'2	3°49'9	7'1	3°47'8	7'1
330	4° 3'3	7'3	4° 1'2	7'2	3°59'1	7'1	3°57'0	7'1	3°54'9	7'0
340	4°10'6	7'2	4° 8'4	7'2	4° 6'2	7'2	4° 4'1	7'1	4° 1'9	7'0
350	4°17'8	7'3	4°15'6	7'2	4°13'4	7'1	4°11'2	7'0	4° 8'9	7'0
360	4°25'1	7'2	4°22'8	7'2	4°20'5	7'1	4°18'2	7'1	4°15'9	7'0
370	4°32'3	7'3	4°30'0	7'1	4°27'6	7'1	4°25'3	7'0	4°22'9	7'0
380	4°39'6	7'2	4°37'1	7'2	4°34'7	7'1	4°32'3	7'1	4°29'9	7'0
390	4°46'8	7'2	4°44'3	7'2	4°41'8	7'1	4°39'4	7'0	4°36'9	7'0
400	4°54'0	7'2	4°51'5	7'1	4°48'9	7'1	4°46'4	7'0	4°43'9	6'9
410	5° 1'2	7'2	4°58'6	7'1	4°56'0	7'1	4°53'4	7'0	4°50'8	7'0
420	5° 8'4	7'2	5° 5'7	7'2	5° 3'1	7'1	5° 0'4	7'0	4°57'8	6'9
430	5°15'6	7'1	5°12'9	7'1	5°10'2	7'0	5° 7'4	7'0	5° 4'7	7'0
440	5°22'7	7'2	5°20'0	7'1	5°17'2	7'0	5°14'4	7'0	5°11'7	6'9
450	5°29'9	7'1	5°27'1	7'0	5°24'2	7'1	5°21'4	7'0	5°18'6	6'9
460	5°37'0	7'2	5°34'1	7'1	5°31'3	7'0	5°28'4	6'9	5°25'5	6'9
470	5°44'2	7'1	5°41'2	7'1	5°38'3	7'0	5°35'3	7'0	5°32'4	6'9
480	5°51'3	7'1	5°48'3	7'0	5°45'3	7'0	5°42'3	6'9	5°39'3	6,9
490	5°58'4	7'1	5°55'3	7'1	5°52'3	7'0	5°49'2	7'0	5°46'2	6,9
500	6° 5'5		6° 2'4		5°59'3		5°56'2		5°53'1	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 2400 — 2600.

	2400	Diff.	2420	Diff.	2440	Diff.	2460	Diff.	2480	Diff.
0	0° 0'0		0° 0'0		0° 0'0		0° 0'0		0° 0'0	
10	0° 7'2	7'2	0° 7'1	7'1	0° 7'1	7'1	0° 7'0	7'0	0° 6'9	6'9
20	0°14'3	7'1	0°14'2	7'1	0°14'1	7'0	0°14'0	7'0	0°13'9	7'0
30	0°21'5	7'2	0°21'3	7'1	0°21'2	7'1	0°21'0	7'0	0°20'8	6'9
40	0°28'7	7'2	0°28'4	7'1	0°28'2	7'0	0°28'0	7'0	0°27'8	7'0
50	0°35'8	7'1	0°35'5	7'1	0°35'3	7'1	0°35'0	7'0	0°34'7	6'9
60	0°43'0	7'2	0°42'6	7'1	0°42'3	7'0	0°42'0	7'0	0°41'7	7'0
70	0°50'1	7'1	0°49'7	7'1	0°49'4	7'1	0°49'0	7'0	0°48'6	6'9
80	0°57'3	7'2	0°56'8	7'1	0°56'4	7'0	0°56'0	7'0	0°55'5	6'9
90	1° 4'4	7'1	1° 3'9	7'1	1° 3'4	7'0	1° 3'0	7'0	1° 2'5	7'0
100	1°11'6	7'2	1°11'0	7'1	1°10'5	7'1	1° 9'9	6'9	1° 9'4	6'9
110	1°18'7	7'1	1°18'1	7'1	1°17'5	7'0	1°16'9	7'0	1°16'3	6'9
120	1°25'9	7'2	1°25'2	7'1	1°24'6	7'1	1°23'9	7'0	1°23'2	6'9
130	1°33'0	7'1	1°32'3	7'1	1°31'6	7'0	1°30'9	7'0	1°30'2	7'0
140	1°40'2	7'2	1°39'4	7'1	1°38'6	7'0	1°37'9	7'0	1°37'1	6'9
150	1°47'3	7'1	1°46'5	7'1	1°45'6	7'0	1°44'8	6'9	1°44'0	6'9
160	1°54'4	7'1	1°53'5	7'0	1°52'7	7'1	1°51'8	7'0	1°50'9	6'9
170	2° 1'6	7'2	2° 0'6	7'1	1°59'7	7'0	1°58'8	7'0	1°57'8	6'9
180	2° 8'7	7'1	2° 7'7	7'1	2° 6'7	7'0	2° 5'7	6'9	2° 4'7	6'9
190	2°15'8	7'1	2°14'8	7'1	2°13'7	7'0	2°12'7	7'0	2°11'6	6'9
200	2°22'9	7'1	2°21'8	7'0	2°20'7	7'0	2°19'6	6'9	2°18'5	6'9
210	2°30'0	7'1	2°28'9	7'1	2°27'7	7'0	2°26'6	7'0	2°25'4	6'9
220	2°37'1	7'1	2°35'9	7'0	2°34'7	7'0	2°33'5	6'9	2°32'3	6'9
230	2°44'2	7'1	2°43'0	7'1	2°41'7	7'0	2°40'5	7'0	2°39'2	6'9
240	2°51'3	7'1	2°50'0	7'0	2°48'7	7'0	2°47'4	6'9	2°46'1	6'9
250	2°58'4	7'1	2°57'1	7'1	2°55'7	7'0	2°54'3	6'9	2°53'0	6'9
260	3° 5'5	7'1	3° 4'1	7'0	3° 2'7	7'0	3° 1'2	6'9	3°59'8	6'8
270	3°12'6	7'1	3°11'1	7'0	3° 9'6	6'9	3° 8'2	7'0	3° 6'7	6'9
280	3°19'6	7'0	3°18'1	7'0	3°16'6	7'0	3°15'1	6'9	3°13'5	6'8
290	3°26'7	7'1	3°25'1	7'0	3°23'6	7'0	3°22'0	6'9	3°20'4	6'9
300	3°33'7	7'0	3°32'1	7'0	3°30'5	6'9	3°28'9	6'9	3°27'2	6'8
310	3°40'8	7'1	3°39'1	7'0	3°37'4	6'9	3°35'8	6'9	3°34'1	6'9
320	3°47'8	7'0	3°46'1	7'0	3°44'4	7'0	3°42'6	6'8	3°40'9	6'8
330	3°54'9	7'1	3°53'1	7'0	3°51'3	6'9	3°49'5	6'9	3°47'7	6'8
340	4° 1'9	7'0	4° 0'1	7'0	3°58'2	6'9	3°56'4	6'9	3°54'6	6'9
350	4° 8'9	7'0	4° 7'0	6'9	4° 5'1	6'9	4° 3'2	6'8	4° 1'4	6'8
360	4°15'9	7'0	4°14'0	7'0	4°12'0	6'9	4°10'1	6'9	4° 8'2	6'8
370	4°22'9	7'0	4°20'9	6'9	4°18'9	6'9	4°16'9	6'8	4°14'9	6'7
380	4°29'9	7'0	4°27'9	7'0	4°25'8	6'9	4°23'8	6'9	4°21'7	6'8
390	4°36'9	7'0	4°34'8	6'9	4°32'7	6'9	4°30'6	6'8	4°28'5	6'8
400	4°43'9	7'0	4°41'7	6'9	4°39'6	6'9	4°37'4	6'8	4°35'3	6'8
410	4°50'8	6'9	4°48'6	6'9	4°46'4	6'8	4°44'2	6'8	4°42'0	6'7
420	4°57'8	7'0	4°55'5	6'9	4°53'3	6'9	4°51'0	6'8	4°48'8	6'8
430	5° 4'7	6'9	5° 2'4	6'9	5° 0'1	6'8	5°57'8	6'8	4°55'5	6'7
440	5°11'7	7'0	5° 9'3	6'9	5° 7'0	6'9	5° 4'6	6'8	5° 2'3	6'8
450	5°18'6	6'9	5°16'2	6'9	5°13'8	6'8	5°11'4	6'8	5° 9'0	6'7
460	5°25'5	6'9	5°23'0	6'8	5°20'6	6'8	5°18'2	6'8	5°15'7	6'7
470	5°32'4	6'9	5°29'9	6'9	5°27'4	6'8	5°24'9	6'7	5°22'4	6'7
480	5°39'3	6'9	5°36'8	6'9	5°34'2	6'8	5°31'7	6'8	5°29'1	6'7
490	5°46'2	6'9	5°43'6	6'8	5°41'0	6'8	5°38'4	6'7	5°35'8	6'7
500	5°53'1	6'9	5°50'4	6'8	5°47'8	6'8	5°45'1	6'7	5°42'5	6'7

	2500	Diff.	2520	Diff.	2540	Diff.	2560	Diff.	2580	Diff.	2600	Diff.
0	0° 0'0		0° 0'0		0° 0'0		0° 0'0		0° 0'0		0° 0'0	
10	0° 6'9	6'9	0° 6'8	6'8	0° 6'8	6'8	0° 6'7	6'7	0° 6'7	6'7	0° 6'6	6'6
20	0°13'8	6'9	0°13'7	6'9	0°13'6	6'8	0°13'4	6'7	0°13'3	6'6	0°13'2	6'6
30	0°20'7	6'9	0°20'5	6'8	0°20'3	6'7	0°20'2	6'8	0°20'0	6'7	0°19'8	6'6
40	0°27'5	6'8	0°27'3	6'8	0°27'1	6'8	0°26'9	6'7	0°26'7	6'7	0°26'4	6'6
50	0°34'4	6'9	0°34'2	6'9	0°33'8	6'7	0°33'6	6'7	0°33'3	6'6	0°33'1	6'7
60	0°41'3	6'9	0°41'0	6'8	0°40'6	6'8	0°40'3	6'7	0°40'0	6'7	0°39'7	6'6
70	0°48'2	6'9	0°47'8	6'8	0°47'4	6'8	0°47'0	6'7	0°46'7	6'7	0°46'3	6'6
80	0°55'1	6'9	0°54'6	6'8	0°54'2	6'8	0°53'8	6'8	0°53'3	6'6	0°52'9	6'6
90	1° 2'0	6'9	1° 1'5	6'9	1° 1'0	6'8	1° 0'5	6'7	1° 0'0	6'7	0°59'5	6'6
100	1° 8'8	6'8	1° 8'3	6'8	1° 7'7	6'7	1° 7'2	6'7	1° 6'6	6'6	1° 6'1	6'6
110	1°15'7	6'9	1°15'1	6'8	1°14'5	6'8	1°13'9	6'7	1°13'3	6'7	1°12'7	6'6
120	1°22'6	6'9	1°21'9	6'8	1°21'3	6'8	1°20'6	6'7	1°19'9	6'6	1°19'3	6'6
130	1°29'5	6'9	1°28'7	6'8	1°28'0	6'7	1°27'3	6'7	1°26'6	6'7	1°25'9	6'6
140	1°36'3	6'8	1°35'6	6'9	1°34'8	6'8	1°34'0	6'7	1°33'2	6'6	1°32'5	6'6
150	1°43'2	6'9	1°42'4	6'8	1°41'5	6'7	1°40'7	6'7	1°39'9	6'7	1°39'1	6'6
160	1°50'0	6'8	1°49'2	6'8	1°48'3	6'8	1°47'4	6'7	1°46'5	6'6	1°45'6	6'5
170	1°56'9	6'9	1°56'0	6'8	1°55'0	6'7	1°54'1	6'7	1°53'2	6'7	1°52'2	6'6
180	2° 3'8	6'9	2° 2'8	6'8	2° 1'8	6'8	2° 0'8	6'7	1°59'8	6'6	1°58'8	6'6
190	2°10'6	6'8	2° 9'6	6'8	2° 8'5	6'7	2° 7'5	6'7	2° 6'4	6'6	2° 5'4	6'6
200	2°17'4	6'8	2°16'3	6'7	2°15'3	6'8	2°14'2	6'7	2°13'1	6'7	2°12'0	6'6
210	2°24'3	6'9	2°23'1	6'8	2°22'0	6'7	2°20'8	6'6	2°19'7	6'6	2°18'5	6'5
220	2°31'1	6'8	2°29'9	6'8	2°28'7	6'7	2°27'5	6'7	2°26'3	6'6	2°25'1	6'6
230	2°38'0	6'9	2°36'7	6'8	2°35'4	6'7	2°34'2	6'7	2°32'9	6'6	2°31'7	6'6
240	2°44'8	6'8	2°43'5	6'8	2°42'2	6'8	2°40'8	6'6	2°39'5	6'6	2°38'2	6'5
250	2°51'6	6'8	2°50'2	6'7	2°48'9	6'7	2°47'5	6'7	2°46'1	6'6	2°44'8	6'6
260	2°58'4	6'8	2°57'0	6'8	2°55'6	6'7	2°54'2	6'7	2°52'7	6'6	2°51'3	6'5
270	3° 5'2	6'8	3° 3'8	6'8	3° 2'3	6'7	3° 0'8	6'6	2°59'3	6'6	2°57'9	6'6
280	3°12'0	6'8	3°10'5	6'7	3° 9'0	6'7	3° 7'5	6'7	3° 5'9	6'6	3° 4'4	6'5
290	3°18'8	6'8	3°17'3	6'8	3°15'7	6'7	3°14'1	6'6	3°12'5	6'6	3°10'9	6'5
300	3°25'6	6'8	3°24'0	6'7	3°22'4	6'7	3°20'7	6'6	3°19'1	6'6	3°17'5	6'6
310	3°32'4	6'8	3°30'7	6'7	3°29'0	6'6	3°27'4	6'7	3°25'7	6'6	3°24'0	6'5
320	3°39'2	6'8	3°37'4	6'7	3°35'7	6'7	3°34'0	6'6	3°32'2	6'5	3°30'5	6'5
330	3°45'9	6'7	3°44'2	6'8	3°42'4	6'7	3°40'6	6'6	3°38'8	6'6	3°37'0	6'5
340	3°52'7	6'8	3°50'9	6'7	3°49'0	6'6	3°47'2	6'6	3°45'4	6'6	3°43'5	6'5
350	3°59'5	6'8	3°57'6	6'7	3°55'7	6'7	3°53'8	6'6	3°51'9	6'5	3°50'0	6'5
360	4° 6'2	6'7	4° 4'3	6'7	4° 2'3	6'6	4° 0'4	6'6	3°58'4	6'5	3°56'5	6'5
370	4°13'0	6'8	4°11'0	6'7	4° 9'0	6'7	4° 7'0	6'6	4° 5'0	6'6	4° 3'0	6'5
380	4°19'7	6'7	4°17'7	6'7	4°15'6	6'6	4°13'6	6'6	4°11'5	6'5	4° 9'5	6'5
390	4°26'4	6'7	4°24'3	6'6	4°22'2	6'6	4°20'1	6'5	4°18'0	6'5	4°15'9	6'4
400	4°33'1	6'7	4°31'0	6'7	4°28'8	6'6	4°26'7	6'6	4°24'5	6'5	4°22'4	6'5
410	4°39'8	6'7	4°37'6	6'6	4°35'4	6'6	4°33'2	6'5	4°31'0	6'5	4°28'8	6'4
420	4°46'5	6'7	4°44'3	6'7	4°42'0	6'6	4°39'8	6'6	4°37'5	6'5	4°35'3	6'5
430	4°53'2	6'7	4°50'9	6'6	4°48'6	6'6	4°46'3	6'5	4°44'0	6'5	4°41'7	6'4
440	4°59'9	6'7	4°57'6	6'7	4°55'2	6'6	4°52'9	6'6	4°50'5	6'5	4°48'2	6'5
450	5° 6'6	6'7	5° 4'2	6'6	5° 1'8	6'6	4°59'4	6'5	5°57'0	6'5	4°54'6	6'4
460	5°13'3	6'7	5°10'8	6'6	5° 8'4	6'6	5° 5'9	6'5	5° 3'4	6'4	5° 1'0	6'4
470	5°19'9	6'6	5°17'4	6'6	5°14'9	6'5	5°12'4	6'5	5° 9'9	6'5	5° 7'4	6'4
480	5°26'6	6'7	5°24'0	6'6	5°21'5	6'6	5°18'9	6'5	5°16'4	6'5	5°13'8	6'4
490	5°33'2	6'6	5°30'6	6'6	5°28'0	6'5	5°25'4	6'5	5°22'8	6'4	5°20'2	6'4
500	5°39'8	6'6	5°37'2	6'6	5°34'5	6'5	5°31'9	6'5	5°29'2	6'4	5°26'6	6'4

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 2600—2800.

	2600	Diff.	2620	Diff.	2640	Diff.	2660	Diff.	2680	Diff.	2700	Diff.
0	0° 0'0	6'6	0° 0'0	6'6	0° 0'0	6'5	0° 0'0	6'5	0° 0'0	6'4	0° 0'0	6'4
10	0° 6'6	6'6	0° 6'6	6'5	0° 6'5	6'5	0° 6'5	6'4	0° 6'4	6'5	0° 6'4	6'4
20	0°13'2	6'6	0°13'1	6'6	0°13'0	6'6	0°12'9	6'5	0°12'9	6'4	0°12'8	6'3
30	0°19'8	6'6	0°19'7	6'6	0°19'6	6'5	0°19'4	6,5	0°19'3	6'4	0°19'1	6'4
40	0°26'4	6'7	0°26'3	6'5	0°26'1	6'5	0°25'9	6'4	0°25'7	6'4	0°25'5	6'4
50	0°33'1	6'6	0°32'8	6'6	0°32'6	6'5	0°32'3	6'5	0°32'1	6'4	0°31'9	6'4
60	0°39'7	6'6	0°39'4	6'5	0°39'1	6'5	0°38'8	6'5	0°38'5	6'5	0°38'3	6'3
70	0°46'3	6'6	0°45'9	6'6	0°45'6	6'5	0°45'3	6'4	0°45'0	6'4	0°44'6	6'4
80	0°52'9	6'6	0°52'5	6'6	0°52'1	6'5	0°51'7	6'5	0°51'4	6'4	0°51'0	6'4
90	0°59'5	6'6	0°59'1	6'5	0°58'6	6'5	0°58'2	6'5	0°57'8	6'4	0°57'4	6'3
100	1° 6'1	6'6	1° 5'6	6'6	1° 5'1	6'5	1° 4'7	6'4	1° 4'2	6'4	1° 3'7	6'4
110	1°12'7	6'6	1°12'2	6'5	1°11'6	6'6	1°11'1	6'5	1°10'6	6'4	1°10'1	6'4
120	1°19'3	6'6	1°18'7	6'6	1°18'2	6'5	1°17'6	6'4	1°17'0	6'4	1°16'5	6'3
130	1°25'9	6'6	1°25'3	6'5	1°24'7	6'5	1°24'0	6'5	1°23'4	6'4	1°22'8	6'4
140	1°32'5	6'6	1°31'8	6'6	1°31'2	6'5	1°30'5	6'4	1°29'8	6'4	1°29'2	6'3
150	1°39'1	6'5	1°38'4	6'5	1°37'7	6'4	1°36'9	6'5	1°36'2	6'4	1°35'5	6'4
160	1°45'6	6'6	1°44'9	6'5	1°44'1	6'5	1°43'4	6'4	1°42'6	6'4	1°41'9	6'3
170	1°52'2	6'6	1°51'4	6'6	1°50'6	6'5	1°49'8	6'5	1°49'0	6'4	1°48'2	6'4
180	1°58'8	6'6	1°58'0	6'5	1°57'1	6'5	1°56'3	6'4	1°55'4	6'4	1°54'6	6'3
190	2° 5'4	6'6	2° 4'5	6'5	2° 3'6	6'5	2° 2'7	6'5	2° 1'8	6'4	2° 0'9	6'4
200	2°12'0	6'5	2°11'0	6'6	2°10'1	6'5	2° 9'2	6'4	2° 8'2	6'4	2° 7'3	6'3
210	2°18'5	6'6	2°17'6	6'5	2°16'6	6'4	2°15'6	6'4	2°14'6	6'4	2°13'6	6'3
220	2°25'1	6'6	2°24'1	6'5	2°23'0	6'5	2°22'0	6'4	2°21'0	6'4	2°19'9	6'4
230	2°31'7	6'5	2°30'6	6'5	2°29'5	6'5	2°28'4	6'5	2°27'4	6'3	2°26'3	6'3
240	2°38'2	6'6	2°37'1	6'5	2°36'0	6'4	2°34'9	6'4	2°33'7	6'4	2°32'6	6'3
250	2°44'8	6'5	2°43'6	6'5	2°42'4	6'5	2°41'3	6'4	2°40'1	6'4	2°38'9	6'3
260	2°51'3	6'6	2°50'1	6'5	2°48'9	6'4	2°47'7	6'4	2°46'5	6'3	2°45'2	6'4
270	2°57'9	6'5	2°56'6	6'5	2°55'3	6'5	2°54'1	6'4	2°52'8	6'4	2°51'6	6'3
280	3° 4'4	6'5	3° 3'1	6'5	3° 1'8	6'4	3° 0'5	6'4	2°59'2	6'3	2°57'9	6'3
290	3°10'9	6'6	3° 9'6	6'5	3° 8'2	6'5	3° 6'9	6'4	3° 5'5	6'4	3° 4'2	6'3
300	3°17'5	6'5	3°16'1	6'4	3°14'7	6'4	3°13'3	6'4	3°11'9	6'3	3°10'5	6'3
310	3°24'0	6'5	3°22'5	6'5	3°21'1	6'4	3°19'7	6'3	3°18'2	6'3	3°16'8	6'3
320	3°30'5	6'5	3°29'0	6'5	3°27'5	6'4	3°26'0	6'4	3°24'5	6'4	3°23'1	6'2
330	3°37'0	6'5	3°35'5	6'4	3°33'9	6'5	3°32'4	6'4	3°30'9	6'3	3°29'3	6'3
340	3°43'5	6'5	3°41'9	6'5	3°40'4	6'4	3°38'8	6'3	3°37'2	6'3	3°35'6	6'3
350	3°50'0	6'5	3°48'4	6'4	3°46'8	6'4	3°45'1	6'4	3°43'5	6'3	3°41'9	6'3
360	3°56'5	6'5	3°54'8	6'5	3°53'2	6'4	3°51'5	6'3	3°49'8	6'3	3°48'2	6'2
370	4° 3'0	6'5	4° 1'3	6'4	3°59'6	6'3	3°57'8	6'4	3°56'1	6'3	3°54'4	6'3
380	4° 9'5	6'4	4° 7'7	6'4	4° 5'9	6'4	4° 4'2	6'3	4° 2'4	6'3	4° 0'7	6'2
390	4°15'9	6'5	4°14'1	6'4	4°12'3	6'4	4°10'5	6'3	4° 8'7	6'3	4° 6'9	6'3
400	4°22'4	6'4	4°20'5	6'5	4°18'7	6'4	4°16'8	6'4	4°15'0	6'3	4°13'2	6'2
410	4°28'8	6'5	4°27'0	6'4	4°25'1	6'3	4°23'2	6'3	4°21'3	6'2	4°19'4	6'2
420	4°35'3	6'4	4°33'4	6'4	4°31'4	6'4	4°29'5	6'3	4°27'5	6'3	4°25'6	6'2
430	4°41'7	6'5	4°39'8	6'3	4°37'8	6'3	4°35'8	6'3	4°33'8	6'3	4°31'8	6'2
440	4°48'2	6'4	4°46'1	6'4	4°44'1	6'3	4°42'1	6'3	4°40'1	6'2	4°38'0	6'2
450	4°54'6	6'4	4°52'5	6'4	4°50'4	6'4	4°48'4	6'3	4°46'3	6'3	4°44'2	6'2
460	5° 1'0	6'4	4°58'9	6'3	4°56'8	6'3	4°54'7	6'2	4°52'6	6'2	4°50'4	6'2
470	5° 7'4	6'4	5° 5'2	6'4	5° 3'1	6'3	5° 0'9	6'3	4°58'8	6'2	4°56'6	6'2
480	5°13'8	6'4	5°11'6	6'4	5° 9'4	6'3	5° 7'2	6'3	5° 5'0	6'2	5° 2'8	6'2
490	5°20'2	6'4	5°18'0	6'3	5°15'7	6'3	5°13'5	6'2	5°11'2	6'2	5° 9'0	6'2
500	5°26'6		5°24'3		5°22'0		5°19'7		5°17'4		5°15'2	

	2720	Diff.	2740	Diff.	2760	Diff.	2780	Diff.	2800	Diff.
0	0° 0'0	6'3	0° 0'0	6'3	0° 0'0	6'2	0° 0'0	6'2	0° 0'0	6'1
10	0° 6'3	6'4	0° 6'3	6'3	0° 6'2	6'3	0° 6'2	6'2	0° 6'1	6'2
20	0°12'7	6'3	0°12'6	6'2	0°12'5	6'2	0°12'4	6'2	0°12'3	6'1
30	0°19'0	6'3	0°18'8	6'3	0°18'7	6'2	0°18'6	6'1	0°18'4	6'2
40	0°25'3	6'3	0°25'1	6'3	0°24'9	6'3	0°24'7	6'2	0°24'6	6'1
50	0°31'6	6'4	0°31'4	6'3	0°31'2	6'2	0°30'9	6'2	0°30'7	6'1
60	0°38'0	6'3	0°37'7	6'3	0°37'4	6'2	0°37'1	6'2	0°36'8	6'2
70	0°44'3	6'3	0°44'0	6'2	0°43'6	6,3	0°43'3	6'2	0°43'0	6'1
80	0°50'6	6'3	0°50'2	6'3	0°49'9	6'2	0°49'5	6'2	0°49'1	6'1
90	0°56'9	6'4	0°56'5	6'3	0°56'1	6'2	0°55'7	6'1	0°55'2	6'2
100	1° 3'3	6'3	1° 2'8	6'3	1° 2'3	6'2	1° 1'8	6'2	1° 1'4	6'1
110	1° 9'6	6'3	1° 9'1	6'2	1° 8'5	6'3	1° 8'0	6'2	1° 7'5	6'1
120	1°15'9	6'3	1°15'3	6'3	1°14'8	6'2	1°14'2	6'2	1°13'6	6'2
130	1°22'2	6'3	1°21'6	6'3	1°21'0	6'2	1°20'4	6'1	1°19'8	6'1
140	1°28'5	6'3	1°27'9	6'2	1°27'2	6'2	1°26'5	6'2	1°25'9	6'1
150	1°34'8	6'3	1°34'1	6'3	1°33'4	6'2	1°32'7	6'2	1°32'0	6'1
160	1°41'1	6'3	1°40'4	6'2	1°39'6	6'2	1°38'9	6'1	1°38'1	6'1
170	1°47'4	6'3	1°46'6	6'3	1°45'8	6,2	1°45'0	6'2	1°44'2	6'2
180	1°53'7	6'3	1°52'9	6'2	1°52'0	6'3	1°51'2	6'2	1°50'4	6'1
190	2° 0'0	6'3	1°59'1	6'3	1°58'3	6'2	1°57'4	6'1	1°56'5	6'1
200	2° 6'3	6'3	2° 5'4	6'2	2° 4'5	6'2	2° 3'5	6'2	2° 2'6	6'1
210	2°12'6	6'3	2°11'6	6'3	2°10'7	6'2	2° 9'7	6'1	2° 8'7	6'1
220	2°18'9	6'3	2°17'9	6'2	2°16'9	6'1	2°15'8	6'2	2°14'8	6'1
230	2°25'2	6'3	2°24'1	6'3	2°23'0	6'2	2°22'0	6'1	2°20'9	6'1
240	2°31'5	6'3	2°30'4	6'2	2°29'2	6'2	2°28'1	6'1	2°27'0	6'1
250	2°37'8	6'2	2°36'6	6'2	2°35'4	6'2	2°34'2	6'2	2°33'1	6'1
260	2°44'0	6'3	2°42'8	6'2	2°41'6	6'2	2°40'4	6'1	2°39'2	6'0
270	2°50'3	6'3	2°49'0	6'2	2°47'8	6'1	2°46'5	6'1	2°45'2	6'1
280	2°56'6	6'2	2°55'2	6'3	2°53'9	6'2	2°52'6	6'2	2°51'3	6'1
290	3° 2'8	6'3	3° 1'5	6'2	3° 0'1	6'2	2°58'8	6'1	2°57'4	6'1
300	3° 9'1	6'2	3° 7'7	6'2	3° 6'3	6'1	3° 4'9	6'1	3° 3'5	6'0
310	3°15'3	6'3	3°13'9	6'2	3°12'4	6'2	3°11'0	6'1	3° 9'5	6'1
320	3°21'6	6'2	3°20'1	6'2	3°18'6	6'1	3°17'1	6'1	3°15'6	6'1
330	3°27'8	6'2	3°26'3	6'2	3°24'7	6'2	3°23'2	6'1	3°21'7	6'0
340	3°34'0	6'3	3°32'5	6'1	3°30'9	6'1	3°29'3	6'1	3°27'7	6'1
350	3°40'3	6'2	3°38'6	6'2	3°37'0	6'1	3°35'4	6'1	3°33'8	6'0
360	3°46'5	6'2	3°44'8	6'2	3°43'1	6'2	3°41'5	6'1	3°39'8	6'0
370	3°52'7	6'2	3°51'0	6'1	3°49'3	6'1	3°47'6	6'0	3°45'8	6'1
380	3°58'9	6'2	3°57'1	6'2	3°55'4	6'1	3°53'6	6'1	3°51'9	6'0
390	4° 5'1	6'2	4° 3'3	6'2	4° 1'5	6'1	3°59'7	6'1	3°57'9	6'0
400	4°11'3	6'2	4° 9'5	6'1	4° 7'6	6'1	4° 5'8	6'0	4° 3'9	6'0
410	4°17'5	6'2	4°15'6	6'1	4°13'7	6'1	4°11'8	6'1	4° 9'9	6'0
420	4°23'7	6'2	4°21'7	6'2	4°19'8	6'1	4°17'9	6'0	4°15'9	6'0
430	4°29'9	6'1	4°27'9	6'1	4°25'9	6'1	4°23'9	6'0	4°21'9	6'0
440	4°36'0	6'2	4°34'0	6'1	4°32'0	6'0	4°29'9	6'1	4°27'9	6'0
450	4°42'2	6'1	4°40'1	6'1	4°38'0	6'1	4°36'0	6'0	4°33'9	6'0
460	4°48'3	6'2	4°46'2	6'1	4°44'1	6'0	4°42'0	6'0	4°39'9	6'0
470	4°54'5	6'1	4°52'3	6'1	4°50'1	6'1	4°48'0	6'0	4°45'9	5'9
480	5° 0'6	6'2	4°58'4	6'1	4°56'2	6'1	4°54'0	6'0	4°51'8	6'0
490	5° 6'8	6'1	5° 4'5	6'1	5° 2'3	6'0	5° 0'0	6'0	4°57'8	5'9
500	5°12'9		5°10'6		5° 8'3		5° 6'0		5° 3'7	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 2800—3000.

	2800	Diff.	2820	Diff.	2840	Diff.	2860	Diff.	2880	Diff.	2900	Diff.	2920	Diff.	2940	Diff.	2960	Diff.	2980	Diff.	3000	Diff.
0	0° 0'0	6'1	0° 0'0	6'1	0° 0'0	6'1	0° 0'0	6'0	0° 0'0	6'0	0° 0'0	5'9	0° 0'0	5'9	0° 0'0	5'9	0° 0'0	5'8	0° 0'0	5'8	0° 0'0	5'7
10	0° 6'1	6'2	0° 6'1	6'1	0° 6'1	6'0	0° 6'0	6'0	0° 6'0	6'0	0° 5'9	6'0	0° 5'9	5'9	0° 5'9	5'8	0° 5'8	5'8	0° 5'8	5'7	0° 5'7	5'8
20	0° 12'3	6'1	0° 12'2	6'1	0° 12'1	6'1	0° 12'0	6'1	0° 12'0	5'9	0° 11'9	5'9	0° 11'8	5'9	0° 11'7	5'9	0° 11'6	5'8	0° 11'5	5'8	0° 11'5	5'7
30	0° 18'4	6'2	0° 18'3	6'1	0° 18'2	6'0	0° 18'1	6'0	0° 17'9	6'0	0° 17'8	5'9	0° 17'7	5'9	0° 17'6	5'8	0° 17'4	5'9	0° 17'3	5'8	0° 17'2	5'7
40	0° 24'6	6'1	0° 24'4	6,1	0° 24'2	6'1	0° 24'1	6'0	0° 23'9	6'0	0° 23'7	6'0	0° 23'6	5'9	0° 23'4	5'9	0° 23'3	5'8	0° 23'1	5'8	0° 22'9	5'8
50	0° 30'7	6'1	0° 30'5	6'1	0° 30'3	6'0	0° 30'1	6'0	0° 29'9	6'0	0° 29'7	5'9	0° 29'5	5'9	0° 29'3	5'8	0° 29'1	5'8	0° 28'9	5'7	0° 28'7	5'7
60	0° 36'8	6'2	0° 36'6	6'1	0° 36'3	6'1	0° 36'1	6'0	0° 35'9	5'9	0° 35'6	5'9	0° 35'4	5'8	0° 35'1	5'9	0° 34'9	5'8	0° 34'6	5'8	0° 34'4	5'7
70	0° 43'0	6'1	0° 42'7	6'1	0° 42'4	6'0	0° 42'1	6'0	0° 41'8	6'0	0° 41'5	6'0	0° 41'2	5'9	0° 41'0	5'8	0° 40'7	5'8	0° 40'4	5'8	0° 40'1	5'7
80	0° 49'1	6'1	0° 48'8	6'1	0° 48'4	6'1	0° 48'1	6'0	0° 47'8	6'0	0° 47'5	5'9	0° 47'1	5'9	0° 46'8	5'9	0° 46'5	5'8	0° 46'2	5'7	0° 45'8	5'8
90	0° 55'2	6'2	0° 54'9	6'1	0° 54'5	6'0	0° 54'1	6'0	0° 53'8	5'9	0° 53'4	5'9	0° 53'0	5'9	0° 52'7	5'8	0° 52'3	5'8	0° 51'9	5'8	0° 51'6	5'7
100	1° 1'4	6'1	1° 1'0	6'0	1° 0'5	6'1	1° 0'1	6'1	0° 59'7	6'0	0° 59'3	6'0	0° 58'9	5'9	0° 58'5	5'9	0° 58'1	5'8	0° 57'7	5'8	0° 57'3	5'7
110	1° 7'5	6'1	1° 7'0	6'1	1° 6'6	6'0	1° 6'2	6'0	1° 5'7	6'0	1° 5'3	5'9	1° 4'8	5'9	1° 4'4	5'8	1° 3'9	5'8	1° 3'5	5'7	1° 3'0	5'7
120	1° 13'6	6'2	1° 13'1	6'1	1° 12'6	6'1	1° 12'2	6'0	1° 11'7	5'9	1° 11'2	5'9	1° 10'7	5'9	1° 10'2	5'8	1° 9'7	5'8	1° 9'2	5'8	1° 8'7	5'7
130	1° 19'8	6'1	1° 19'2	6'1	1° 18'7	6'0	1° 18'2	6'0	1° 17'6	6'0	1° 17'1	5'9	1° 16'6	5'8	1° 16'0	5'9	1° 15'5	5'8	1° 15'0	5'7	1° 14'4	5'8
140	1° 25'9	6'1	1° 25'3	6'1	1° 24'7	6'1	1° 24'2	6'0	1° 23'6	6'0	1° 23'0	5'9	1° 22'4	5'9	1° 21'9	5'8	1° 21'3	5'8	1° 20'7	5'8	1° 20'2	5'7
150	1° 32'0	6'1	1° 31'4	6'1	1° 30'8	6'0	1° 30'2	6'0	1° 29'6	5'9	1° 28'9	6'0	1° 28'3	5'9	1° 27'7	5'9	1° 27'1	5'8	1° 26'5	5'7	1° 25'9	5'7
160	1° 38'1	6'1	1° 37'5	6'0	1° 36'8	6'0	1° 36'2	6'0	1° 35'5	6'0	1° 34'9	5'9	1° 34'2	5'9	1° 33'6	5'8	1° 32'9	5'8	1° 32'2	5'8	1° 31'6	5'7
170	1° 44'2	6'2	1° 43'5	6'1	1° 42'8	6'1	1° 42'2	6'0	1° 41'5	5,9	1° 40'8	5'9	1° 40'1	5'9	1° 39'4	5'8	1° 38'7	5'8	1° 38'0	5'7	1° 37'3	5'7
180	1° 50'4	6'1	1° 49'6	6'1	1° 48'9	6'0	1° 48'2	5'9	1° 47'4	6'0	1° 46'7	5'9	1° 46'0	5'8	1° 45'2	5'8	1° 44'5	5'8	1° 43'7	5'8	1° 43'0	5'7
190	1° 56'5	6'1	1° 55'7	6'1	1° 54'9	6'0	1° 54'1	6'0	1° 53'4	5'9	1° 52'6	5'9	1° 51'8	5'9	1° 51'0	5'9	1° 50'3	5'8	1° 49'5	5'7	1° 48'7	5'7
200	2° 2'6	6'1	2° 1'8	6'0	2° 0'9	6'1	2° 0'1	6'0	1° 59'3	6'0	1° 58'5	5'9	1° 57'7	5'9	1° 56'9	5'8	1° 56'1	5'7	1° 55'2	5'8	1° 54'4	5'7
210	2° 8'7	6'1	2° 7'8	6'1	2° 7'0	6'0	2° 6'1	6'0	2° 5'3	5'9	2° 4'4	5'9	2° 3'6	5'8	2° 2'7	5'8	2° 1'8	5'8	2° 1'0	5'7	2° 0'1	5'7
220	2° 14'8	6'1	2° 13'9	6'0	2° 13'0	6'0	2° 12'1	6'0	2° 11'2	5'9	2° 10'3	5'9	2° 9'4	5'9	2° 8'5	5'8	2° 7'6	5'8	2° 6'7	5'8	2° 5'8	5'7
230	2° 20'9	6'1	2° 19'9	6'1	2° 19'0	6'0	2° 18'1	6'0	2° 17'1	6'0	2° 16'2	5'9	2° 15'3	5'8	2° 14'3	5'9	2° 13'4	5'8	2° 12'5	5'7	2° 11'5	5'7
240	2° 27'0	6'1	2° 26'0	6'0	2° 25'0	6'0	2° 24'1	5'9	2° 23'1	5'9	2° 22'1	5'9	2° 21'1	5'9	2° 20'2	5'8	2° 19'2	5'7	2° 18'2	5'7	2° 17'2	5'7
250	2° 33'1	6'1	2° 32'0	6'1	2° 31'0	6'0	2° 30'0	6'0	2° 29'0	5'9	2° 28'0	5'9	2° 27'0	5'8	2° 26'0	5'8	2° 24'9	5'8	2° 23'9	5'8	2° 22'9	5'7
260	2° 39'2	6'0	2° 38'1	6'0	2° 37'0	6'0	2° 36'0	6'0	2° 34'9	6'0	2° 33'9	5'9	2° 32'8	5'9	2° 31'8	5'8	2° 30'7	5'8	2° 29'7	5'7	2° 28'6	5'7
270	2° 45'2	6'1	2° 44'1	6'1	2° 43'0	6'0	2° 42'0	5'9	2° 40'9	5'9	2° 39'8	5'9	2° 38'7	5'8	2° 37'6	5'8	2° 36'5	5'7	2° 35'4	5'7	2° 34'3	5'7
280	2° 51'3	6'1	2° 50'2	6'0	2° 49'0	6'0	2° 47'9	6'0	2° 46'8	5'9	2° 45'7	5'8	2° 44'5	5'9	2° 43'4	5'8	2° 42'2	5'8	2° 41'1	5'7	2° 40'0	5'6
290	2° 57'4	6'1	2° 56'2	6'1	2° 55'0	6'0	2° 53'9	5'9	2° 52'7	5'9	2° 51'5	5'9	2° 50'4	5'8	2° 49'2	5'8	2° 48'0	5'8	2° 46'8	5'7	2° 45'6	5'7
300	3° 3'5	6'0	3° 2'3	6'0	3° 1'0	6'0	2° 59'8	6'0	2° 58'6	5'9	2° 57'4	5'9	2° 56'2	5'8	2° 55'0	5'8	2° 53'8	5'7	2° 52'5	5'7	2° 51'3	5'7
310	3° 9'5	6'1	3° 8'3	6'0	3° 7'0	6'0	3° 5'8	5'9	3° 4'5	5'9	3° 3'3	5'8	3° 2'0	5'8	3° 0'8	5'7	2° 59'5	5'8	2° 58'2	5'8	2° 57'0	5'7
320	3° 15'6	6'1	3° 14'3	6'0	3° 13'0	6'0	3° 11'7	6'0	3° 10'4	5'9	3° 9'1	5'9	3° 7'8	5'9	3° 6'5	5'8	3° 5'3	5'7	3° 4'0	5'7	3° 2'7	5'6
330	3° 21'7	6'0	3° 20'3	6'0	3° 19'0	6'0	3° 17'7	5'9	3° 16'3	5'9	3° 15'0	5'8	3° 13'7	5'8	3° 12'3	5'8	3° 11'0	5'7	3° 9'7	5'7	3° 8'3	5'7
340	3° 27'7	6'1	3° 26'3	6'0	3° 25'0	5'9	3° 23'6	5'9	3° 22'2	5'9	3° 20'8	5'9	3° 19'5	5'8	3° 18'1	5'8	3° 16'7	5'8	3° 15'4	5'6	3° 14'0	5'6
350	3° 33'8	6'0	3° 32'3	6'0	3° 30'9	6'0	3° 29'5	5'9	3° 28'1	5'9	3° 26'7	5'8	3° 25'3	5'8	3° 23'9	5'7	3° 22'5	5'7	3° 21'0	5'7	3° 19'6	5'7
360	3° 39'8	6'0	3° 38'3	6'0	3° 36'9	6'0	3° 35'4	6'0	3° 34'0	5'9	3° 32'5	5'9	3° 31'1	5'8	3° 29'6	5'8	3° 28'2	5'7	3° 26'7	5'7	3° 25'3	5'6
370	3° 45'8	6'1	3° 44'3	6'0	3° 42'9	5'9	3° 41'4	5'9	3° 39'9	5'9	3° 38'4	5'8	3° 36'9	5'8	3° 35'4	5'8	3° 33'9	5'8	3° 32'4	5'7	3° 30'9	5'7
380	3° 51'9	6'0	3° 50'3	6'0	3° 48'8	6'0	3° 47'3	5'9	3° 45'8	5'8	3° 44'2	5'9	3° 42'7	5'8	3° 41'2	5'7	3° 39'7	5'7	3° 38'1	5'7	3° 36'6	5'6
390	3° 57'9	6'0	3° 56'3	6'0	3° 54'8	5'9	3° 53'2	5'9	3° 51'6	5'9	3° 50'1	5'8	3° 48'5	5'8	3° 46'9	5'8	3° 45'4	5'7	3° 43'8	5'7	3° 42'2	5'6
400	4° 3'9	6'0	4° 2'3	6'0	4° 0'7	5'9	3° 59'1	5'9	3° 57'5	5'8	3° 55'9	5'8	3° 54'3	5'8	3° 52'7	5'7	3° 51'1	5'7	3° 49'5	5'6	3° 47'8	5'7
410	4° 9'9	6'0	4° 8'3	5'9	4° 6'6	6'0	4° 5'0	5'9	4° 3'3	5'9	4° 1'7	5'8	4° 0'1	5'7	3° 58'4	5'7	3° 56'8	5'7	3° 55'1	5'7	3° 53'5	5'6
420	4° 15'9	6'0	4° 14'2	6'0	4° 12'6	5'9	4° 10'9	5'9	4° 9'2	5'8	4° 7'5	5'8	4° 5'8	5'8	4° 4'1	5'8	4° 2'5	5'7	4° 0'8	5'6	3° 59'1	5'6
430	4° 21'9	6'0	4° 20'2	6'0	4° 18'5	5'9	4° 16'8	5'8	4° 15'0	5'9	4° 13'3	5'8	4° 11'6	5'8	4° 9'9	5'7	4° 8'2	5'6	4° 6'4	5'7	4° 4'7	5'6
440	4° 27'9	6'0	4° 26'2	5'9	4° 24'4	5'9	4° 22'6	5'9	4° 20'9	5'8	4° 19'1	5'8	4° 17'4	5'7	4° 15'6	5'7	4° 13'8	5'7	4° 12'1	5'6	4° 10'3	5'6
450	4° 33'9	6'0	4° 32'1	6'0	4° 30'3	5'9	4° 28'5	5'9	4° 26'7	5'8	4° 24'9	5'8	4° 23'1	5'8	4° 21'3	5'7	4° 19'5	5'7	4° 17'7	5'7	4° 15'9	5'6
460	4° 39'9	6'0	4° 38'1	5'9	4° 36'2	5'9	4° 34'4	5'8	4° 32'5	5'9	4° 30'7	5'8	4° 28'9	5'7	4° 27'0	5'7	4° 25'2	5'7	4° 23'4	5'6	4° 21'5	5'6
470	4° 45'9	5'9	4° 44'0	5'9	4° 42'1	5'9	4° 40'2	5'9	4° 38'4	5'8	4° 36'5	5'8	4° 34'6	5'8	4° 32'7	5'7	4° 30'9	5'6	4° 29'0	5'6	4° 27'1	5'6
480	4° 51'8	6'0	4° 49'9	5'9	4° 48'0	5'9	4° 46'1	5'8	4° 44'2	5'8	4° 42'3	5'7	4° 40'4	5'7	4° 38'4	5'7	4° 36'5	5'7	4° 34'6	5'6	4° 32'7	5'6
490	4° 57'8	5'9	4° 55'8	6'0	4° 53'9	5'9	4° 51'9	5'9	4° 50'0	5'8	4° 48'0	5'8	4° 46'1	5'7	4° 44'1	5'7	4° 42'2	5'6	4° 40'2	5'7	4° 38'3	5'6
500	5° 3'7		5° 1'8		4° 59'8		4° 57'8		4° 55'8		4° 53'8		4° 51'8		4° 49'8		4° 47'8		4° 45'9		4° 43'9	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 3000—3200.

	3000	Diff.	3020	Diff.	3040	Diff.	3060	Diff.	3080	Diff.	3100	Diff.	3120	Diff.	3140	Diff.	3160	Diff.	3180	Diff.	3200	Diff.
0	0° 0'0	5'7	0° 0'0	5,7	0° 0'0	5'7	0° 0'0	5'6	0° 0'0	5'6	0° 0'0	5'6	0° 0'0	5'5	0° 0'0	5'5	0° 0'0	5'4	0° 0'0	5'4	0° 0'0	5'4
10	0° 5'7	5'8	0° 5'7	5'7	0° 5'7	5'6	0° 5'6	5'6	0° 5'6	5'6	0° 5'6	5'5	0° 5'5	5'5	0° 5'5	5'5	0° 5'4	5'5	0° 5'4	5'4	0° 5'4	5'3
20	0°11'5	5'7	0°11'4	5'7	0°11'3	5'7	0°11'2	5'7	0°11'2	5'6	0°11'1	5'6	0°11'0	5'5	0°11'0	5'4	0°10'9	5'4	0°10'8	5'4	0°10'7	5'4
30	0°17'2	5'7	0°17'1	5'7	0°17'0	5'6	0°16'9	5'6	0°16'8	5'5	0°16'7	5'5	0°16'5	5'6	0°16'4	5'5	0°16'3	5'5	0°16'2	5'4	0°16'1	5'4
40	0°22'9	5'8	0°22'8	5'7	0°22'6	5'7	0°22'5	5'6	0°22'3	5'6	0°22'2	5'6	0°22'1	5'5	0°21'9	5'5	0°21'8	5'4	0°21'6	5'4	0°21'5	5'4
50	0°28'7	5'7	0°28'5	5'7	0°28'3	5'7	0°28'1	5'6	0°27'9	5'6	0°27'8	5'5	0°27'6	5'5	0°27'4	5'5	0°27'2	5'5	0°27'0	5'4	0°26'9	5'3
60	0°34'4	5,7	0°34'2	5'7	0°34'0	5'6	0°33'7	5'7	0°33'5	5'6	0°33'3	5'6	0°33'1	5'5	0°32'9	5'5	0°32'7	5'4	0°32'4	5'5	0°32'2	5'4
70	0°40'1	5'7	0°39'9	5'6	0°39'6	5'7	0°39'4	5'6	0°39'1	5'6	0°38'9	5'5	0°38'6	5'5	0°38'4	5'4	0°38'1	5'5	0°37'9	5'4	0°37'6	5'4
80	0°45'8	5'8	0°45'5	5'7	0°45'3	5'6	0°45'0	5'6	0°44'7	5'6	0°44'4	5'5	0°44'1	5'5	0°43'8	5'5	0°43'6	5'4	0°43'3	5'4	0°43'0	5'3
90	0°51'6	5'7	0°51'2	5'7	0°50'9	5'7	0°50'6	5'6	0°50'3	5'5	0°49'9	5'6	0°49'6	5'5	0°49'3	5'5	0°49'0	5'4	0°48'7	5'4	0°48'3	5'4
100	0°57'3	5'7	0°56'9	5'7	0°56'6	5'6	0°56'2	5'6	0°55'8	5'6	0°55'5	5'5	0°55'1	5'5	0°54'8	5'4	0°54'4	5'5	0°54'1	5'4	0°53'7	5'4
110	1° 3'0	5'7	1° 2'6	5'7	1° 2'2	5'7	1° 1'8	5'6	1° 1'4	5'6	1° 1'0	5'6	1° 0'6	5'5	1° 0'2	5'5	0°59'9	5'4	0°59'5	5'4	0°59'1	5'3
120	1° 8'7	5'7	1° 8'3	5'7	1° 7'9	5'6	1° 7'4	5'6	1° 7'0	5'6	1° 6'6	5'5	1° 6'1	5'6	1° 5'7	5'5	1° 5'3	5'4	1° 4'9	5'4	1° 4'4	5'4
130	1°14'4	5'8	1°14'0	5'7	1°13'5	5'7	1°13'0	5'7	1°12'6	5'6	1°12'1	5'6	1°11'7	5'5	1°11'2	5'5	1°10'7	5'5	1°10'3	5'4	1° 9'8	5'4
140	1°20'2	5'7	1°19'7	5'6	1°19'2	5'6	1°18'7	5'6	1°18'2	5'5	1°17'7	5'5	1°17'2	5'5	1°16'7	5'4	1°16'2	5'4	1°15'7	5'4	1°15'2	5'3
150	1°25'9	5'7	1°25'3	5'7	1°24'8	5'7	1°24'3	5'6	1°23'7	5'6	1°23'2	5'5	1°22'7	5'5	1°22'1	5'5	1°21'6	5'4	1°21'1	5'3	1°20'5	5'4
160	1°31'6	5'7	1°31'0	5'7	1°30'5	5'6	1°29'9	5'6	1°29'3	5'6	1°28'7	5'6	1°28'2	5'5	1°27'6	5'5	1°27'0	5'5	1°26'4	5'4	1°25'9	5'3
170	1°37'3	5'7	1°36'7	5'7	1°36'1	5'6	1°35'5	5'6	1°34'9	5'5	1°34'3	5'5	1°33'7	5'5	1°33'1	5'4	1°32'5	5'4	1°31'8	5'4	1°31'2	5'4
180	1°43'0	5'7	1°42'4	5'6	1°41'7	5'7	1°41'1	5'6	1°40'4	5'6	1°39'8	5'5	1°39'2	5'5	1°38'5	5'5	1°37'9	5'4	1°37'2	5'4	1°36'6	5'3
190	1°48'7	5'7	1°48'0	5'7	1°47'4	5'6	1°46'7	5'6	1°46'0	5'6	1°45'3	5'6	1°44'7	5'5	1°44'0	5'4	1°43'3	5'4	1°42'6	5'4	1°41'9	5'4
200	1°54'4	5'7	1°53'7	5'7	1°53'0	5'6	1°52'3	5'6	1°51'6	5'5	1°50'9	5'5	1°50'2	5'4	1°49'4	5'5	1°48'7	5'4	1°48'0	5'4	1°47'3	5'3
210	2° 0'1	5'7	1°59'4	5'7	1°58'6	5'7	1°57'9	5'6	1°57'1	5'6	1°56'4	5'5	1°55'6	5'5	1°54'9	5'4	1°54'1	5'5	1°53'4	5'4	1°52'6	5'4
220	2° 5'8	5'7	2° 5'1	5'6	2° 4'3	5'6	2° 3'5	5'6	2° 2'7	5'5	2° 1'9	5'5	2° 1'1	5'5	2° 0'3	5'5	1°59'6	5'4	1°58'8	5'4	1°58'0	5'3
230	2°11'5	5'7	2°10'7	5'7	2° 9'9	5'6	2° 9'1	5'6	2° 8'2	5'6	2° 7'4	5'6	2° 6'6	5'5	2° 5'8	5'4	2° 5'0	5'4	2° 4'2	5'3	2° 3'3	5'4
240	2°17'2	5'7	2°16'4	5'6	2°15'5	5'6	2°14'7	5'5	2°13'8	5'5	2°13'0	5'5	2°12'1	5'5	2°11'2	5'5	2°10'4	5'4	2° 9'5	5'4	2° 8'7	5'3
250	2°22'9	5'7	2°22'0	5'7	2°21'1	5'7	2°20'2	5'6	2°19'3	5'6	2°18'5	5'5	2°17'6	5'5	2°16'7	5'4	2°15'8	5'4	2°14'9	5'4	2°14'0	5'4
260	2°28'6	5'7	2°27'7	5'6	2°26'8	5'6	2°25'8	5'6	2°24'9	5'5	2°24'0	5'5	2°23'1	5'5	2°22'1	5'5	2°21'2	5'4	2°20'3	5'4	2°19'4	5'3
270	2°34'3	5'7	2°33'3	5'7	2°32'4	5'6	2°31'4	5'6	2°30'4	5'6	2°29'5	5'5	2°28'6	5'5	2°27'6	5'4	2°26'6	5'4	2°25'7	5'3	2°24'7	5'3
280	2°40'0	5'6	2°39'0	5'6	2°38'0	5'6	2°37'0	5'6	2°36'0	5'5	2°35'0	5'5	2°34'1	5'4	2°33'0	5'4	2°32'0	5'4	2°31'0	5'4	2°30'0	5'4
290	2°45'6	5'7	2°44'6	5'7	2°43'6	5'6	2°42'6	5'5	2°41'5	5'6	2°40'5	5'5	2°39'5	5'4	2°38'4	5'5	2°37'4	5'4	2°36'4	5'3	2°35'4	5'3
300	2°51'3	5'7	2°50'3	5'6	2°49'2	5'6	2°48'1	5'6	2°47'1	5'5	2°46'0	5'5	2°44'9	5'5	2°43'9	5'4	2°42'8	5'4	2°41'7	5'4	2°40'7	5'3
310	2°57'0	5'7	2°55'9	5'6	2°54'8	5'6	2°53'7	5'6	2°52'6	5'5	2°51'5	5'5	2°50'4	5'5	2°49'3	5'4	2°48'2	5'4	2°47'1	5'4	2°46'0	5'3
320	3° 2'7	5'6	3° 1'5	5'7	3° 0'4	5'6	3°59'3	5'5	2°58'1	5'6	2°57'0	5'5	2°55'9	5'4	2°54'7	5'4	2°53'6	5'4	2°52'5	5'3	2°51'3	5'3
330	3° 8'3	5'7	3° 7'2	5'6	3° 6'0	5'6	3° 4'8	5'6	3° 3'7	5'5	3° 2'5	5'5	3° 1'3	5'5	3° 0'1	5'5	2°59'0	5'4	2°57'8	5'4	2°56'6	5'4
340	3°14'0	5'6	3°12'8	5'6	3°11'6	5'6	3°10'4	5'5	3° 9'2	5'5	3° 8'0	5'5	3° 6'8	5'4	3° 5'6	5'4	3° 4'4	5'3	3° 3'2	5'3	3° 2'0	5'3
350	3°19'6	5'7	3°18'4	5'6	3°17'2	5'5	3°15'9	5'6	3°14'7	5'5	3°13'5	5'4	3°12'2	5'5	3°11'0	5'4	3° 9'7	5'4	3° 8'5	5'3	3° 7'3	5'3
360	3°25'3	5'6	3°24'0	5'6	3°22'7	5'6	3°21'5	5'5	3°20'2	5'5	3°18'9	5'5	3°17'7	5'4	3°16'4	5'4	3°15'1	5'4	3°13'8	5'4	3°12'6	5'3
370	3°30'9	5'7	3°29'6	5'6	3°28'3	5'6	3°27'0	5'6	3°25'7	5'5	3°24'4	5'5	3°23'1	5'4	3°21'8	5'4	3°20'5	5'4	3°19'2	5'3	3°17'9	5'3
380	3°26'6	5'6	3°35'2	5'6	3°33'9	5'6	3°32'6	5'5	3°31'2	5'5	3°29'9	5'4	3°28'5	5'5	3°27'2	5'4	3°25'9	5'3	3°24'5	5'3	3°23'2	5'3
390	3°42'2	5'6	3°40'8	5'6	3°39'5	5'5	3°38'1	5'5	3°36'7	5'5	3°35'3	5'5	3°34'0	5'4	3°32'6	5'4	3°31'2	5'4	3°29'8	5'4	3°28'5	5'[illegible]
400	3°47'8	5'7	3°46'4	5'6	3°45'0	5'6	3°43'6	5'5	3°42'2	5'5	3°40'8	5'5	3°39'4	5'4	3°38'0	5'4	3°36'6	5'3	3°35'2	5'3	3°33'7	5'3
410	3°53'5	5'6	3°52'0	5'6	3°50'6	5'5	3°49'1	5'6	3°47'7	5'5	3°46'3	5'4	3°44'8	5'4	3°43'4	5'4	3°41'9	5'4	3°40'5	5'3	3°39'0	5'3
420	3°59'1	5'6	3°57'6	5'6	3°56'1	5'6	3°54'7	5'5	3°53'2	5'5	3°51'7	5'5	3°50'2	5'4	3°48'8	5'3	3°47'3	5'3	3°45'8	5'3	3°44'3	5'3
430	4° 4'7	5'6	4° 3'2	5'6	4° 1'7	5'5	4° 0'2	5'5	3°58'7	5'4	3°57'2	5'4	3°55'6	5'4	3°54'1	5'4	3°52'6	5'4	3°51'1	5'3	3°49'6	5'3
440	4°10'3	5'6	4° 8'8	5'5	4° 7'2	5'6	4° 5'7	5'5	4° 4'1	5'5	4° 2'6	5'4	4° 1'0	5'4	3°59'5	5'4	3°58'0	5'3	3°56'4	5'3	3°54'9	5'[illegible]
450	4°15'9	5'6	4°14'3	5'6	4°12'8	5'5	4°11'2	5'5	4° 9'6	5'5	4° 8'0	5'5	4° 6'4	5'4	4° 4'9	5'3	4° 3'3	5'3	4° 1'7	5'3	4° 0'1	5'3
460	4°21'5	5'6	4°19'9	5'6	4°18'3	5'5	4°16'7	5'5	4°15'1	5'4	4°13'5	5'4	4°11'8	5'4	4°10'2	5'4	4° 8'6	5'4	4° 7'0	5'3	4° 5'4	5'3
470	4°27'1	5'6	4°25'5	5'5	4°23'8	5'6	4°22'2	5'5	4°20'5	5'5	4°18'9	5'4	4°17'2	5'4	4°15'6	5'4	4°14'0	5'3	4°12'3	5'3	4°10'7	5'[illegible]
480	4°32'7	5'6	4°31'0	5'6	4°29'4	5'5	4°27'7	5'5	4°26'0	5'5	4°24'3	5'5	4°22'6	5'4	4°21'0	5'3	4°19'3	5'3	4°17'6	5'3	4°15'9	5'3
490	4°38'3	5'6	4°36'6	5'5	4°34'9	5'5	4°33'2	5'4	4°31'5	5'4	4°29'8	5'4	4°28'0	5'4	4°26'3	5'4	4°24'6	5'3	4°22'9	5'3	4°21'2	5'[illegible]
500	4°43'9		4°42'1		4°40'4		4°38'6		4°36'9		4°35'2		4°33'4		4°31'7		4°29'9		4°28'2		4°26'4	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 3200—3400.

	3200	Diff.	3220	Diff.	3240	Diff.	3260	Diff.	3280	Diff.
0	0° 0'0	5'4	0° 0'0	5'3	0° 0'0	5'3	0° 0'0	5'3	0° 0'0	5'3
10	0° 5'4	5'3	0° 5'3	5'4	0° 5'3	5'3	0° 5'3	5'3	0° 5'3	5'2
20	0°10'7	5'4	0°10'7	5'3	0°10'6	5'3	0°10'6	5'2	0°10'5	5'2
30	0°16'1	5'4	0°16'0	5'4	0°15'9	5'3	0°15'8	5'3	0°15'7	5'3
40	0°21'5	5'4	0°21'4	5'3	0°21'2	5'3	0°21'1	5'3	0°21'0	5'2
50	0°26'9	5'3	0°26'7	5'3	0°26'5	5'4	0°26'4	5'3	0°26'2	5'3
60	0°32'2	5'4	0°32'0	5'4	0°31'9	5'3	0°31'7	5'2	0°31'5	5'2
70	0°37'6	5'4	0°37'4	5'3	0°37'2	5'3	0°36'9	5'3	0°36'7	5'3
80	0°43'0	5'3	0°42'7	5'3	0°42'5	5'3	0°42'2	5'3	0°42'0	5'2
90	0°48'3	5'4	0°48'0	5'4	0°47'8	5'3	0°47'5	5'3	0°47'2	5'2
100	0°53'7	5'4	0°53'4	5'3	0°53'1	5'3	0°52'8	5'2	0°52'4	5'3
110	0°59'1	5'3	0°58'7	5'3	0°58'4	5'3	0°58'0	5'3	0°57'7	5'2
120	1° 4'4	5'4	1° 4'0	5'4	1° 3'7	5'3	1° 3'3	5'3	1° 2'9	5'3
130	1° 9'8	5'4	1° 9'4	5'3	1° 9'0	5'3	1° 8'6	5'2	1° 8'2	5'2
140	1°15'2	5'3	1°14'7	5'3	1°14'3	5'3	1°13'8	5'3	1°13'4	5'2
150	1°20'5	5'4	1°20'0	5'4	1°19'6	5'3	1°19'1	5'3	1°18'6	5'3
160	1°25'9	5'3	1°25'4	5'3	1°24'9	5'3	1°24'4	5'2	1°23'9	5'2
170	1°31'2	5'4	1°30'7	5'3	1°30'2	5'3	1°29'6	5'3	1°29'1	5'2
180	1°36'6	5'3	1°36'0	5'3	1°35'5	5'2	1°34'9	5'3	1°34'3	5'3
190	1°41'9	5'4	1°41'3	5'4	1°40'7	5'3	1°40'2	5'2	1°39'6	5'2
200	1°47'3	5'3	1°46'7	5'3	1°46'0	5'3	1°45'4	5'3	1°44'8	5'2
210	1°52'6	5'4	1°52'0	5'3	1°51'3	5'3	1°50'7	5'2	1°50'0	5'2
220	1°58'0	5'3	1°57'3	5'3	1°56'6	5'3	1°55'9	5'3	1°55'2	5'2
230	2° 3'3	5'4	2° 2'6	5'3	2° 1'9	5'3	2° 1'2	5'2	2° 0'4	5'3
240	2° 8'7	5'3	2° 7'9	5'3	2° 7'2	5'3	2° 6'4	5'3	2° 5'7	5'2
250	2°14'0	5'4	2°13'2	5'3	2°12'5	5'2	2°11'7	5'2	2°10'9	5'2
260	2°19'4	5'3	2°18'5	5'3	2°17'7	5'3	2°16'9	5'3	2°16'1	5'2
270	2°24'7	5'3	2°23'8	5'3	2°23'0	5'3	2°22'2	5'2	2°21'3	5'2
280	2°30'0	5'4	2°29'1	5'3	2°28'3	5'2	2°27'4	5'2	2°26'5	5'2
290	2°35'4	5'3	2°34'4	5'3	2°33'5	5'3	2°32'6	5'3	2°31'7	5'2
300	2°40'7	5'3	2°39'7	5'3	2°38'8	5'3	2°37'9	5'2	2°36'9	5'2
310	2°46'0	5'3	2°45'0	5'3	2°44'1	5'2	2°43'1	5'2	2°42'1	5'2
320	2°51'3	5'3	2°50'3	5'3	2°49'3	5'3	2°48'3	5'2	2°47'3	5'2
330	2°56'6	5'4	2°55'6	5'3	2°54'6	5'2	2°53'5	5'3	2°52'5	5'2
340	3° 2'0	5'3	3° 0'9	5'3	2°59'8	5'3	2°58'8	5'2	2°57'7	5'2
350	3° 7'3	5'3	3° 6'2	5'3	3° 5'1	5'2	3° 4'0	5'2	3° 2'9	5'2
360	3°12'6	5'3	3°11'5	5'2	3°10'3	5'3	3° 9'2	5'2	3° 8'1	5'2
370	3°17'9	5'3	3°16'7	5'3	3°15'6	5'2	3°14'4	5'2	3°13'3	5'1
380	3°23'2	5'3	3°22'0	5'3	3°20'8	5'2	3°19'6	5'2	3°18'4	5'2
390	3°28'5	5'2	3°27'3	5'2	3°26'0	5'3	3°24'8	5'2	3°23'6	5'2
400	3°33'7	5'3	3°32'5	5'3	3°31'3	5'2	3°30'0	5'2	3°28'8	5'1
410	3°39'0	5'3	3°37'8	5'2	3°36'5	5'2	3°35'2	5'2	3°33'9	5'2
420	3°44'3	5'3	3°43'0	5'3	3°41'7	5'2	3°40'4	5'2	3°39'1	5'2
430	3°49'6	5'3	3°48'3	5'2	3°46'9	5'3	3°45'6	5'2	3°44'3	5'1
440	3°54'9	5'2	3°53'5	5'2	3°52'2	5'2	3°50'8	5'2	3°49'4	5'2
450	4° 0'1	5'3	3°58'7	5'3	3°57'4	5'2	3°56'0	5'1	3°54'6	5'1
460	4° 5'4	5'3	4° 4'0	5'2	4° 2'6	5'2	4° 1'1	5'2	3°59'7	5'2
470	4°10'7	5'2	4° 9'2	5'2	4° 7'8	5'2	4° 6'3	5'2	4° 4'9	5'1
480	4°15'9	5'3	4°14'4	5'3	4°13'0	5'2	4°11'5	5'1	4°10'0	5'1
490	4°21'2	5'2	4°19'7	5'2	4°18'2	5'1	4°16'6	5'2	4°15'1	5'1
500	4°26'4		4°24'9		4°23'3		4°21'8		4°20'2	

	3300	Diff.	3320	Diff.	3340	Diff.	3360	Diff.	3380	Diff.	3400	Diff.
0	0° 0'0	5'2	0° 0'0	5'2	0° 0'0	5'2	0° 0'0	5'1	0° 0'0	5'1	0° 0'0	5'1
10	0° 5'2	5'2	0° 5'2	5'2	0° 5'2	5'1	0° 5'1	5'1	0° 5'1	5'1	0° 5'1	5'0
20	0°10'4	5'3	0°10'4	5'2	0°10'3	5'2	0°10'2	5'2	0°10'2	5'1	0°10'1	5'1
30	0°15'7	5'2	0°15'6	5'1	0°15'5	5'1	0°15'4	5'1	0°15'3	5'1	0°15'2	5'0
40	0°20'9	5'2	0°20'7	5'2	0°20'6	5'2	0°20'5	5'1	0°20'4	5'0	0°20'2	5'1
50	0°26'1	5'2	0°25'9	5'2	0°25'8	5'1	0°25'6	5'1	0°25'4	5'1	0°25'3	5'0
60	0°31'3	5'2	0°31'1	5'2	0°30'9	5'2	0°30'7	5'1	0°30'5	5'1	0°30'3	5'1
70	0°36'5	5'2	0°36'3	5'2	0°36'1	5'1	0°35'8	5'1	0°35'6	5'1	0°35'4	5'0
80	0°41'7	5'2	0°41'5	5'1	0°41'2	5'1	0°40'9	5'2	0°40'7	5'1	0°40'4	5'1
90	0°46'9	5'2	0°46'6	5'2	0°46'3	5'2	0°46'1	5'1	0°45'8	5'1	0°45'5	5'0
100	0°52'1	5'2	0°51'8	5'2	0°51'5	5'1	0°51'2	5'1	0°50'9	5'0	0°50'5	5'1
110	0°57'3	5'2	0°57'0	5'2	0°56'6	5'2	0°56'3	5'1	0°55'9	5'1	0°55'6	5'0
120	1° 2'5	5'2	1° 2'2	5'1	1° 1'8	5'1	1° 1'4	5'1	1° 1'0	5'1	1° 0'6	5'1
130	1° 7'7	5'3	1° 7'3	5'2	1° 6'9	5'2	1° 6'5	5'1	1° 6'1	5'1	1° 5'7	5'0
140	1°13'0	5'2	1°12'5	5'2	1°12'1	5'1	1°11'6	5'1	1°11'2	5'1	1°10'7	5'1
150	1°18'2	5'2	1°17'7	5'2	1°17'2	5'2	1°16'7	5'1	1°16'3	5'0	1°15'8	5'0
160	1°23'4	5'2	1°22'9	5'1	1°22'4	5'1	1°21'8	5'2	1°21'3	5'1	1°20'8	5'1
170	1°28'6	5'2	1°28'0	5'2	1°27'5	5'1	1°27'0	5'1	1°26'4	5'1	1°25'9	5'0
180	1°33'8	5'2	1°33'2	5'2	1°32'6	5'2	1°32'1	5'1	1°31'5	5'1	1°30'9	5'1
190	1°39'0	5'2	1°38'4	5'1	1°37'8	5'1	1°37'2	5'1	1°36'6	5'0	1°36'0	5'0
200	1°44'2	5'1	1°43'5	5'2	1°42'9	5'1	1°42'3	5'1	1°41'6	5'1	1°41'0	5'0
210	1°49'3	5'2	1°48'7	5'1	1°48'0	5'2	1°47'4	5'1	1°46'7	5'1	1°46'0	5'1
220	1°54'5	5'2	1°53'8	5'2	1°53'2	5'1	1°52'5	5'1	1°51'8	5'0	1°51'1	5'0
230	1°59'7	5'2	1°59'0	5'1	1°58'3	5'1	1°57'6	5'0	1°56'8	5'1	1°56'1	5'0
240	2° 4'9	5'2	2° 4'1	5'2	2° 3'4	5'1	2° 2'6	5'1	2° 1'9	5'0	2° 1'1	5'1
250	2°10'1	5'2	2° 9'3	5'2	2° 8'5	5'1	2° 7'7	5'1	2° 6'9	5'1	2° 6'2	5'0
260	2°15'3	5'2	2°14'5	5'1	2°13'6	5'2	2°12'8	5'1	2°12'0	5'1	2°11'2	5'0
270	2°20'5	5'1	2°19'6	5'2	2°18'8	5'1	2°17'9	5'1	2°17'1	5'0	2°16'2	5'0
280	2°25'6	5'2	2°24'8	5'1	2°23'9	5'1	2°23'0	5'1	2°22'1	5'1	2°21'2	5'1
290	2°30'8	5'2	2°29'9	5'1	2°29'0	5'1	2°28'1	5'1	2°27'2	5'0	2°26'3	5'0
300	2°36'0	5'1	2°35'0	5'2	2°34'1	5'1	2°33'2	5'0	2°32'2	5'1	2°31'3	5'0
310	2°41'1	5'2	2°40'2	5'1	2°39'2	5'1	2°38'2	5'1	2°37'3	5'0	2°36'3	5'0
320	2°46'3	5'2	2°45'3	5'1	2°44'3	5'1	2°43'3	5'1	2°42'3	5'0	2°41'3	5'0
330	2°51'5	5'1	2°50'4	5'2	2°49'4	5'1	2°48'4	5'1	2°47'3	5'1	2°46'3	5'0
340	2°56'6	5'2	2°55'6	5'1	2°54'5	5'1	2°53'5	5'0	2°52'4	5'0	2°51'3	5'0
350	3° 1'8	5'2	3° 0'7	5'1	2°59'6	5'1	2°58'5	5'1	2°57'4	5'0	2°56'3	5'0
360	3° 7'0	5'1	3° 5'8	5'1	3° 4'7	5'1	3° 3'6	5'0	3° 2'4	5'1	3° 1'3	5'0
370	3°12'1	5'1	3°10'9	5'1	3° 9'8	5'1	3° 8'6	5'1	3° 7'5	5'0	3° 6'3	5'0
380	3°17'2	5'2	3°16'0	5'2	3°14'9	5'1	3°13'7	5'0	3°12'5	5'0	3°11'3	5'0
390	3°22'4	5'1	3°21'2	5'1	3°20'0	5'0	3°18'7	5'1	3°17'5	5'1	3°16'3	5'0
400	3°27'5	5'2	3°26'3	5'1	3°25'0	5'1	3°23'8	5'0	3°22'6	5'0	3°21'3	5'0
410	3°32'7	5'1	3°31'4	5'1	3°30'1	5'1	3°28'8	5'1	3°27'6	5'0	3°26'3	5'0
420	3°37'8	5'1	3°36'5	5'1	3°35'2	5'1	3°33'9	5'0	3°32'6	5'0	3°31'3	5'0
430	3°42'9	5'1	3°41'6	5'1	3°40'3	5'0	3°38'9	5'0	3°37'6	5'0	3°36'3	4'9
440	3°48'0	5'2	3°46'7	5'1	3°45'3	5'1	3°43'9	5'1	3°42'6	5'0	3°41'2	5'0
450	3°53'2	5'1	4°51'8	5'1	3°50'4	5'0	3°49'0	5'0	3°47'6	5'0	3°46'2	5'0
460	3°58'3	5'1	4°56'9	5'0	3°55'4	5'1	3°54'0	5'0	3°52'6	5'0	3°51'2	4'9
470	4° 3'4	5'1	4° 1'9	5'1	4° 0'5	5'0	3°59'0	5'0	3°57'6	5'0	3°56'1	5'0
480	4° 8'5	5'1	4° 7'0	5'1	4° 5'5	5'1	4° 4'0	5'1	4° 2'6	5'0	4° 1'1	4'9
490	4°13'6	5'1	4°12'1	5'1	4°10'6	5'0	4° 9'1	5'0	4° 7'6	4'9	4° 6'0	5'0
500	4°18'7		4°17'2		4°15'6		4°14'1		4°12'5		4°11'0	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 3400 — 3600.

	3400	Diff.	3420	Diff.	3440	Diff.	3460	Diff.	3480	Diff.
0	0° 0'0	5'1	0° 0'0	5'0	0° 0'0	5'0	0° 0'0	5'0	0° 0'0	5'0
10	0° 5'1	5'0	0° 5'0	5'1	0° 5'0	5'0	0° 5'0	4'9	0° 5'0	4'9
20	0°10'1	5'1	0°10'1	5'0	0°10'0	5'0	0° 9'9	5'0	0° 9'9	4'9
30	0°15'2	5'0	0°15'1	5'0	0°15'0	5'0	0°14'9	5'0	0°14'8	5'0
40	0°20'2	5'1	0°20'1	5'0	0°20'0	5'0	0°19'9	5'0	0°19'8	4'9
50	0°25'3	5'0	0°25'1	5'1	0°25'0	5'0	0°24'9	4'9	0°24'7	5'0
60	0°30'3	5'1	0°30'2	5'0	0°30'0	5'0	0°29'8	5'0	0°29'7	4'9
70	0°35'4	5'0	0°35'2	5'0	0°35'0	5'0	0°34'8	5'0	0°34'6	4'9
80	0°40'4	5'1	0°40'2	5'0	0°40'0	5'0	0°39'8	4'9	0°39'5	5'0
90	0°45'5	5'0	0°45'2	5'1	0°45'0	5'0	0°44'7	5'0	0°44'5	4'9
100	0°50'5	5'1	0°50'3	5'0	0°50'0	5'0	0°49'7	5'0	0°49'4	5'0
110	0°55'6	5'0	0°55'3	5'0	0°55'0	5'0	0°54'7	4'9	0°54'4	4'9
120	1° 0'6	5'1	1° 0'3	5'0	1° 0'0	5'0	0°59'6	5'0	0°59'3	4'9
130	1° 5'7	5'0	1° 5'3	5'1	1° 5'0	5'0	1° 4'6	5'0	1° 4'2	5'0
140	1°10'7	5'1	1°10'4	5'0	1°10'0	4'9	1° 9'6	4'9	1° 9'2	4'9
150	1°15'8	5'0	1°15'4	5'0	1°14'9	5'0	1°14'5	5'0	1°14'1	4'9
160	1°20'8	5'1	1°20'4	5'0	1°19'9	5'0	1°19'5	5'0	1°19'0	5'0
170	1°25'9	5'0	1°25'4	5'0	1°24'9	5'0	1°24'5	4'9	1°24'0	4'9
180	1°30'9	5'1	1°30'4	5'0	1°29'9	5'0	1°29'4	5'0	1°28'9	4'9
190	1°36'0	5'0	1°35'4	5'0	1°34'9	5'0	1°34'4	4'9	1°33'8	5'0
200	1°41'0	5'0	1°40'4	5'1	1°39'9	5'0	1°39'3	5'0	1°38'8	4'9
210	1°46'0	5'1	1°45'5	5'0	1°44'9	4'9	1°44'3	4'9	1°43'7	4'9
220	1°51'1	5'0	1°50'5	5'0	1°49'8	5'0	1°49'2	5'0	1°48'6	4'9
230	1°56'1	5'0	1°55'5	5'0	1°54'8	5'0	1°54'2	4'9	1°53'5	5'0
240	2° 1'1	5'1	2° 0'5	5'0	1°59'8	5'0	1°59'1	5'0	1°58'5	4'9
250	2° 6'2	5'0	2° 5'5	5'0	2° 4'8	4'9	2° 4'1	4'9	2° 3'4	4'9
260	2°11'2	5'0	2°10'5	5'0	2° 9'7	5'0	2° 9'0	5'0	2° 8'3	4'9
270	2°16'2	5'0	2°15'5	5'0	2°14'7	5'0	2°14'0	4'9	2°13'2	4'9
280	2°21'2	5'1	2°20'5	5'0	2°19'7	4'9	2°18'9	4'9	2°18'1	4'9
290	2°26'3	5'0	2°25'5	4'9	2°24'6	5'0	2°23'8	5'0	2°23'0	4'9
300	2°31'3	5'0	2°30'4	5'0	2°29'6	5'0	2°28'8	4'9	2°27'9	4'9
310	2°36'3	5'0	2°35'4	5'0	2°34'6	4'9	2°33'7	4'9	2°32'8	4'9
320	2°41'3	5'0	2°40'4	5'0	2°39'5	5'0	2°38'6	5'0	2°37'7	4'9
330	2°46'3	5'0	2°45'4	5'0	2°44'5	4'9	2°43'6	4'9	2°42'6	4'9
340	2°51'3	5'0	2°50'4	5'0	2°49'4	5'0	2°48'5	4'9	2°47'5	4'9
350	2°56'3	5'0	2°55'4	4'9	2°54'4	4'9	2°53'4	4'9	2°52'4	4'9
360	3° 1'3	5'0	3° 0'3	5'0	2°59'3	5'0	2°58'3	4'9	2°57'3	4'9
370	3° 6'3	5'0	3° 5'3	5'0	3° 4'3	4'9	3° 3'2	5'0	3° 2'2	4'9
380	3°11'3	5'0	3°10'3	4'9	3° 9'2	5'0	3° 8'2	4'9	3° 7'1	4'9
390	3°16'3	5'0	3°15'2	5'0	3°14'2	4'9	3°13'1	4'9	3°12'0	4'9
400	3°21'3	5'0	3°20'2	5'0	3°19'1	4'9	3°18'0	4'9	3°16'9	4'8
410	3°26'3	5'0	3°25'2	4'9	3°24'0	4'9	3°22'9	4'9	3°21'7	4'9
420	3°31'3	5'0	3°30'1	5'0	3°28'9	5'0	3°27'8	4'9	3°26'6	4'9
430	3°36'3	4'9	3°35'1	4'9	3°33'9	4'9	3°32'7	4'9	3°31'5	4'9
440	3°41'2	5'0	3°40'0	4'9	3°38'8	4'9	3°37'6	4'9	3°36'4	4'8
450	3°46'2	5'0	3°44'9	5'0	3°43'7	4'9	3°42'5	4'8	3°41'2	4'9
460	3°51'2	4'9	3°49'9	4'9	3°48'6	4'9	3°47'3	4'9	3°46'1	4'8
470	3°56'1	5'0	3°54'8	5'0	3°53'5	4'9	3°52'2	4'9	3°50'9	4'9
480	4° 1'1	4'9	3°59'8	4'9	3°58'4	4'9	3°57'1	4'9	3°55'8	4'8
490	4° 6'0	5'0	4° 4'7	4'9	4° 3'3	4'9	4° 2'0	4'9	4° 0'6	4'9
500	4°11'0		4° 9'6		4° 8'2		4° 6'9		4° 5'5	

	3500	Diff.	3520	Diff.	3540	Diff.	3560	Diff.	3580	Diff.	3600	Diff.
0	0° 0'0	4'9	0° 0'0	4'9	0° 0'0	4'9	0° 0'0	4'8	0 0'0	4'8	0° 0'0	4'8
10	0° 4'9	4'9	0° 4'9	4'9	0° 4'9	4'8	0° 4'8	4'9	0° 4'8	4'8	0° 4'8	4'8
20	0° 9'8	5'0	0° 9'8	4'9	0° 9'7	4'9	0° 9'7	4'8	0° 9'6	4'8	0° 9'6	4'7
30	0°14'8	4'9	0°14'7	4'9	0°14'6	4'8	0°14'5	4'8	0°14'4	4'8	0°14'3	4'8
40	0°19'7	4'9	0°19'6	4'8	0°19'4	4'9	0°19'3	4'9	0°19'2	4'8	0°19'1	4'8
50	0°24'6	4'9	0°24'4	4'9	0°24'3	4'9	0°24'2	4'8	0°24'0	4'8	0°23'9	4'8
60	0°29'5	4'9	0°29'3	4'9	0°29'2	4'8	0°29'0	4'8	0°28'8	4'8	0°28'7	4'7
70	0°34'4	4'9	0°34'2	4'9	0°34'0	4'9	0°33'8	4'8	0°33'6	4'8	0°33'4	4'8
80	0°39'3	4'9	0°39'1	4'9	0°38'9	4'8	0°38'6	4'9	0°38'4	4'8	0°38'2	4'8
90	0°44'2	4'9	0°44'0	4'9	0°43'7	4'9	0°43'5	4'8	0°43'2	4'8	0°43'0	4'7
100	0°49'1	5'0	0°48'9	4'8	0°48'6	4'8	0°48'3	4'8	0°48'0	4'8	0°47'7	4'8
110	0°54'1	4'9	0°53'7	4'9	0°53'4	4'9	0°53'1	4'9	0°52'8	4'8	0°52'5	4'8
120	0°59'0	4'9	0°58'6	4'9	0°58'3	4'8	0°58'0	4'8	0°57'6	4'8	0°57'3	4'7
130	1° 3'9	4'9	1° 3'5	4'9	1° 3'1	4'9	1° 2'8	4'8	1° 2'4	4'8	1° 2'0	4'8
140	1° 8'8	4'9	1° 8'4	4'9	1° 8'0	4'8	1° 7'6	4'8	1° 7'2	4'8	1° 6'8	4'8
150	1°13'7	4'9	1°13'3	4'8	1°12'8	4'9	1°12'4	4'8	1°12'0	4'8	1°11'6	4'8
160	1°18'6	4'9	1°18'1	4'9	1°17'7	4'8	1°17'2	4'9	1°16'8	4'8	1 16'4	4'7
170	1°23'5	4'9	1°23'0	4'9	1°22'5	4'9	1°22'1	4'8	1°21'6	4'8	1°21'1	4'8
180	1°28'4	4'9	1°27'9	4'9	1°27'4	4'8	1°26'9	4'8	1°26'4	4'8	1°25'9	4'7
190	1°33'3	4'9	1°32'8	4'8	1°32'2	4'9	1°31'7	4'8	1°31'2	4'8	1°30'6	4'8
200	1°38'2	4'9	1°37'6	4'9	1°37'1	4'8	1°36'5	4'8	1°36'0	4'8	1°35'4	4'7
210	1°43'1	4'9	1°42'5	4'9	1°41'9	4'9	1°41'3	4'8	1°40'8	4'7	1°40'1	4'8
220	1°48'0	4'9	1°47'4	4'8	1°46'8	4'8	1°46'1	4'9	1°45'5	4'8	1°44'9	4'8
230	1°52'9	4'9	1°52'2	4'9	1°51'6	4'8	1°51'0	4'8	1°50'3	4'8	1°49'7	4'7
240	1°57'8	4'9	1°57'1	4'9	1°56'4	4'9	1°55'8	4'8	1°55'1	4'8	1°54'4	4'8
250	2° 2'7	4'9	2° 2'0	4'8	2° 1'3	4'8	2° 0'6	4'8	1°59'9	4'8	1°59'2	4'7
260	2° 7'6	4'9	2° 6'8	4'9	2° 6'1	4'8	2° 5'4	4'8	2° 4'7	4'7	2° 3'9	4'8
270	2°12'5	4'8	2°11'7	4'9	2°10'9	4'9	2°10'2	4'8	2° 9'4	4'8	2° 8'7	4'7
280	2°17'3	4'9	2°16'6	4'8	2°15'8	4'8	2°15'0	4'8	2°14'2	4'8	2°13'4	4'8
290	2°22'2	4'9	2°21'4	4'9	2°20'6	4'8	2°19'8	4'8	2°19'0	4'8	2°18'2	4'7
300	2°27'1	4'9	2°26'3	4'8	2°25'4	4'8	2°24'6	4'8	2°23'8	4'7	2°22'9	4'8
310	2°32'0	4'9	2°31'1	4'9	2°30'2	4'9	2°29'4	4'8	2°28'5	4'8	2°27'7	4'7
320	2°36'9	4'8	2°36'0	4'8	2°35'1	4'8	2°34'2	4'8	2°33'3	4'8	2°32'4	4'7
330	2°41'7	4'9	2°40'8	4'8	2°39'9	4'8	2°39'0	4'8	2°38'1	4'7	2°37'1	4'8
340	2°46'6	4'9	2°45'6	4'9	2°44'7	4'8	2°43'8	4'7	2°42'8	4'8	2°41'9	4'7
350	2°51'5	4'8	2°50'5	4'8	2°49'5	4'8	2°48'5	4'8	2°47'6	4'7	2°46'6	4'7
360	2°56'3	4'9	2°55'3	4'8	2°54'3	4'8	2°53'3	4'8	2°52'3	4'8	2°51'3	4'8
370	3° 1'2	4'8	3° 0'1	4'9	2°59'1	4'8	2°58'1	4'8	2°57'1	4'7	2°56'1	4'7
380	3° 6'0	4'9	3° 5'0	4'8	3° 3'9	4'8	3° 2'9	4'8	3° 1'8	4'8	3° 0'8	4'7
390	3°10'9	4'9	3° 9'8	4'8	3° 8'7	4'8	3° 7'7	4'7	3° 6'6	4'7	3° 5'5	4'7
400	3°15'8	4'8	3°14'6	4'9	3°13'5	4'8	3°12'4	4'8	3°11'3	4'8	3°10'2	4'7
410	3°20'6	4'9	3°19'5	4'8	3°18'3	4'8	3°17'2	4'8	3°16'1	4'7	3°14'9	4'7
420	3°25'5	4'8	3°24'3	4'8	3°23'1	4'8	3°22'0	4'7	3°20'8	4'7	3°19'6	4'7
430	3°30'3	4'8	3°29'1	4'8	3°27'9	4'8	3°26'7	4'8	3°25'5	4'8	3°24'3	4'8
440	3°35'1	4'9	3°33'9	4'8	3°32'7	4'8	3°31'5	4'7	3°30'3	4'7	3°29'1	4'7
450	3°40'0	4'8	3°38'7	4'8	3°37'5	4'8	3°36'2	4'8	3°35'0	4'7	3°33'8	4'7
460	3°44'8	4'8	3°43'5	4'8	3°42'3	4'7	3°41'0	4'7	3°39'7	4'7	3°38'5	4'7
470	3°49'6	4'9	3°48'3	4'8	3°47'0	4'8	3°45'7	4'8	3°44'4	4'8	3°43'2	4'6
480	3°54'5	4'8	3°53'1	4'8	3°51'8	4'8	3°50'5	4'7	3°49'2	4'7	3°47'8	4'7
490	3°59'3	4'8	3°57'9	4'8	3°56'6	4'7	3°55'2	4'8	3°53'9	4'7	3°52'5	4'7
500	4° 4'1		4° 2'7		4° 1'3		4° 0'0		3°58'6		3°57'2	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 3600—3800.

	3600	Diff.	3620	Diff.	3640	Diff.	3660	Diff.	3680	Diff.	3700	Diff.	3720	Diff.	3740	Diff.	3760	Diff.	3780	Diff.	3800	Diff.
0	0° 0'0	4'8	0° 0'0	4'8	0° 0'0	4'7	0° 0'0	4'7	0° 0'0	4'7	0° 0'0	4'7	0° 0'0	4'6	0° 0'0	4'6	0° 0'0	4'6	0° 0'0	4'6	0° 0'0	4'5
10	0° 4'8	4'8	0° 4'8	4'7	0° 4'7	4'8	0° 4'7	4'7	0° 4'7	4'7	0° 4'7	4'6	0° 4'6	4'7	0° 4'6	4'6	0° 4'6	4'5	0° 4'6	4'5	0° 4'5	4'6
20	0° 9'6	4'7	0° 9'5	4'8	0° 9'5	4'7	0° 9'4	4'7	0° 9'4	4'6	0° 9'3	4'7	0° 9'3	4'6	0° 9'2	4'6	0° 9'1	4'6	0° 9'1	4'6	0° 9'1	4'5
30	0°14'3	4'8	0°14'3	4'7	0°14'2	4'7	0°14'1	4'7	0°14'0	4'7	0°14'0	4'6	0°13'9	4'6	0°13'8	4'6	0°13'7	4'6	0°13'7	4'5	0°13'6	4'5
40	0°19'1	4'8	0°19'0	4'8	0°18'9	4'7	0°18'8	4'7	0°18'7	4'7	0°18'6	4'7	0°18'5	4'6	0°18'4	4'6	0°18'3	4'6	0°18'2	4'6	0°18'1	4'5
50	0°23'9	4'8	0°23'8	4'7	0°23'6	4'8	0°23'5	4'7	0°23'4	4'7	0°23'3	4'6	0°23'1	4'6	0°23'0	4'6	0°22'9	4'5	0°22'8	4'5	0°22'6	4'5
60	0°28'7	4'7	0°28'5	4'8	0°28'4	4'7	0°28'2	4'7	0°28'1	4'6	0°27'9	4'6	0°27'7	4'7	0°27'6	4'6	0°27'4	4'6	0°27'3	4'5	0°27'1	4'6
70	0°33'4	4'8	0°33'3	4'7	0°33'1	4'7	0°32'9	4'7	0°32'7	4'7	0°32'5	4'7	0°32'4	4'6	0°32'2	4'6	0°32'0	4'6	0°31'8	4'6	0°31'7	4'5
80	0°38'2	4'8	0°38'0	4'7	0°37'8	4'7	0°37'6	4'7	0°37'4	4'7	0°37'2	4'6	0°37'0	4'6	0°36'8	4'6	0°36'6	4'6	0°36'4	4'5	0°36'2	4'5
90	0°43'0	4'7	0°42'7	4'8	0°42'5	4'7	0°42'3	4'7	0°42'1	4'6	0°41'8	4'7	0°41'6	4'6	0°41'4	4'6	0°41'2	4'5	0°40'9	4'6	0°40'7	4'5
100	0°47'7	4'8	0°47'5	4'7	0°47'2	4'8	0°47'0	4'7	0°46'7	4'7	0°46'5	4'6	0°46'2	4'7	0°46'0	4'6	0°45'7	4'6	0°45'5	4'5	0°45'2	4'5
110	0°52'5	4'8	0°52'2	4'8	0°52'0	4'7	0°51'7	4'7	0°51'4	4'7	0°51'1	4'7	0°50'9	4'6	0°50'6	4'6	0°50'3	4'6	0°50'0	4'6	0°49'7	4'6
120	0°57'3	4'7	0°57'0	4'7	0°56'7	4'7	0°56'4	4'7	0°56'1	4'6	0°55'8	4'6	0°55'5	4'6	0°55'2	4'6	0°54'9	4'5	0°54'6	4'5	0°54'3	4'5
130	1° 2'0	4'8	1° 1'7	4'8	1° 1'4	4'7	1° 1'1	4'7	1° 0'7	4'7	1° 0'4	4'7	1° 0'1	4'6	0°59'8	4'6	0°59'4	4'6	0°59'1	4'6	0°58'8	4'5
140	1° 6'8	4'8	1° 6'5	4'7	1° 6'1	4'7	1° 5'8	4'7	1° 5'4	4'7	1° 5'1	4'6	1° 4'7	4'6	1° 4'4	4'6	1° 4'0	4'6	1° 3'7	4'5	1° 3'3	4'5
150	1°11'6	4'8	1°11'2	4'7	1°10'8	4'8	1°10'5	4'6	1°10'1	4'6	1° 9'7	4'6	1° 9'3	4'6	1° 9'0	4'5	1° 8'6	4'5	1° 8'2	4'5	1° 7'8	4'5
160	1°16'4	4'7	1°15'9	4'8	1°15'6	4'7	1°15'1	4'7	1°14'7	4'7	1°14'3	4'7	1°13'9	4'7	1°13'5	4'6	1°13'1	4'6	1°12'7	4'6	1°12'3	4'6
170	1°21'1	4'8	1°20'7	4'7	1°20'3	4'7	1°19'8	4'7	1°19'4	4'7	1°19'0	4'6	1°18'6	4'6	1°18'1	4'6	1°17'7	4'6	1°17'3	4'5	1°16'9	4'5
180	1°25'9	4'7	1°25'4	4'8	1°25'0	4'7	1°24'5	4'7	1°24'1	4'6	1°23'6	4'7	1°23'2	4'6	1°22'7	4'6	1°22'3	4'5	1°21'8	4'6	1°21'4	4'5
190	1°30'6	4'8	1°30'2	4'7	1°29'7	4'7	1°29'2	4'7	1°28'7	4'7	1°28'3	4'6	1°27'8	4'6	1°27'3	4'6	1°26'8	4'6	1°26'4	4'5	1°25'9	4'5
200	1°35'4	4'7	1°34'9	4'7	1°34'4	4'7	1°33'9	4'7	1°33'4	4'7	1°32'9	4'6	1°32'4	4'6	1°31'9	4'6	1°31'4	4'5	1°30'9	4'5	1°30'4	4'5
210	1°40'1	4'8	1°39'6	4'8	1°39'1	4'7	1°38'6	4'7	1°38'1	4'6	1°37'5	4'7	1°37'0	4'6	1°36'5	4'6	1°35'9	4'6	1°35'4	4'6	1°34'9	4'5
220	1°44'9	4'8	1°44'4	4'7	1°43'8	4'7	1°43'3	4'6	1°42'7	4'7	1°42'2	4'6	1°41'6	4'6	1°41'1	4'5	1°40'5	4'6	1°40'0	4'5	1°39'4	4'5
230	1°49'7	4'7	1°49'1	4'7	1°48'5	4'7	1°47'9	4'7	1°47'4	4'6	1°46'8	4'6	1°46'2	4'6	1°45'6	4'6	1°45'1	4'5	1°44'5	4'5	1°43'9	4'5
240	1°54'4	4'8	1°53'8	4'8	1°53'2	4'7	1°52'6	4'7	1°52'0	4'7	1°51'4	4'7	1°50'8	4'6	1°50'2	4'6	1°49'6	4'6	1°49'0	4'6	1°48'4	4'5
250	1°59'2	4'7	1°58'6	4'7	1°57'9	4'7	1°57'3	4'7	1°56'7	4'6	1°56'1	4'6	1°55'4	4'6	1°54'8	4'6	1°54'2	4'5	1°53'6	4'5	1°52'9	4'5
260	2° 3'9	4'8	2° 3'3	4'7	2° 2'6	4'7	2° 2'0	4'7	2° 1'3	4'7	2° 0'7	4'6	2° 0'0	4'6	1°59'4	4'6	1°58'7	4'6	1°58'1	4'5	1°57'4	4'5
270	2° 8'7	4'7	2° 8'0	4'7	2° 7'3	4'7	2° 6'7	4'6	2° 6'0	4'6	2° 5'3	4'6	2° 4'6	4'6	2° 4'0	4'5	2° 3'3	4'5	2° 2'6	4'5	2° 1'9	4'5
280	2°13'4	4'8	2°12'7	4'7	2°12'0	4'7	2°11'3	4'7	2°10'6	4'7	2° 9'9	4'7	2° 9'2	4'6	2° 8'5	4'6	2° 7'8	4'6	2° 7'1	4'6	2° 6'4	4'5
290	2°18'2	4'7	2°17'4	4'8	2°16'7	4'7	2°16'0	4'7	2°15'3	4'6	2°14'6	4'6	2°13'8	4'6	2°13'1	4'6	2°12'4	4'5	2°11'7	4'5	2°10'9	4'5
300	2°22'9	4'8	2°22'2	4'7	2°21'4	4'7	2°20'7	4'6	2°19'9	4'7	2°19'2	4'6	2°18'4	4'6	2°17'7	4'5	2°16'9	4'6	2°16'2	4'5	2°15'4	4'5
310	2°27'7	4'7	2°26'9	4'7	2°26'1	4'7	2°25'3	4'7	2°24'6	4'6	2°23'8	4'6	2°23'0	4'6	2°22'2	4'6	2°21'5	4'5	2°20'7	4'5	2°19'9	4'5
320	2°32'4	4'7	2°31'6	4'7	2°30'8	4'7	2°30'0	4'7	2°29'2	4'6	2°28'4	4'6	2°27'6	4'6	2°26'8	4'6	2°26'0	4'6	2°25'2	4'5	2°24'4	4'5
330	2°37'1	4'8	2°36'3	4'7	2°35'5	4'7	2°34'7	4'6	2°33'8	4'7	2°33'0	4'6	2°32'2	4'6	2°31'4	4'5	2°30'6	4'5	2°29'7	4'5	2°28'9	4'5
340	2°41'9	4'7	2°41'0	4'7	2°40'2	4'7	2°39'3	4'7	2°38'5	4'6	2°37'6	4'6	2°36'8	4'6	2°35'9	4'6	2°35'1	4'5	2°34'2	4'5	2°33'4	4'5
350	2°46'6	4'7	2°45'7	4'7	2°44'9	4'6	2°44'0	4'6	2°43'1	4'6	2°42'2	4'6	2°41'4	4'5	2°40'5	4'6	2°39'6	4'6	2°38'7	4'6	2°37'9	4'5
360	2°51'3	4'8	2°50'4	4'7	2°49'5	4'7	2°48'6	4'7	2°47'7	4'7	2°46'8	4'6	2°45'9	4'6	2°45'1	4'5	2°44'2	4'5	2°43'3	4'5	2°42'4	4'4
370	2°56'1	4'7	2°55'1	4'7	2°54'2	4'7	2°53'3	4'6	2°52'4	4'6	2°51'4	4'6	2°50'5	4'6	2°49'6	4'6	2°48'7	4'5	2°47'8	4'5	2°46'8	4'5
380	3° 0'8	4'7	2°59'8	4'7	2°58'9	4'7	2°57'9	4'7	2°57'0	4'6	2°56'0	4'6	2°55'1	4'6	2°54'2	4'5	2°53'2	4'5	2°52'3	4'5	2°51'3	4'5
390	3° 5'5	4'7	3° 4'5	4'7	3° 3'6	4'6	3° 2'6	4'6	3° 1'6	4'6	3° 0'6	4'6	2°59'7	4'6	2°58'7	4'6	2°57'7	4'6	2°56'8	4'5	2°55'8	4'5
400	3°10'2	4'7	3° 9'2	4'7	3° 8'2	4'7	3° 7'2	4'7	3° 6'2	4'7	3° 5'2	4'6	3° 4'3	4'5	3° 3'3	4'5	3° 2'3	4'5	3° 1'3	4'5	3° 0'3	4'4
410	3°14'9	4'7	3°13'9	4'7	3°12'9	4'7	3°11'9	4'6	3°10'9	4'6	3° 9'8	4'6	3° 8'8	4'6	3° 7'8	4'5	3° 6'8	4'5	3° 5'8	4'5	3° 4'7	4'5
420	3°19'6	4'7	3°18'6	4'7	3°17'6	4'6	3°16'5	4'6	3°15'5	4'6	3°14'4	4'6	3°13'4	4'5	3°12'3	4'6	3°11'3	4'5	3°10'3	4'5	3° 9'2	4'5
430	3°24'3	4'8	3°23'3	4'7	3°22'2	4'7	3°21'1	4'7	3°20'1	4'6	3°19'0	4'6	3°17'9	4'6	3°16'9	4'5	3°15'8	4'5	3°14'8	4'4	3°13'7	4'5
440	3°29'1	4'7	3°28'0	4'6	3°26'9	4'6	3°25'8	4'6	3°24'7	4'6	3°23'6	4'6	3°22'5	4'6	3°21'4	4'6	3°20'3	4'5	3°19'2	4'5	3°18'2	4'4
450	3°33'8	4'7	3°32'6	4'7	3°31'5	4'7	3°30'4	4'6	3°29'3	4'6	3°28'2	4'6	3°27'1	4'5	3°26'0	4'5	3°24'8	4'6	3°23'7	4'5	3°22'6	4'5
460	3°38'5	4'7	3°37'3	4'7	3°36'2	4'6	3°35'0	4'7	3°33'9	4'6	3°32'8	4'5	3°31'6	4'6	3°30'5	4'5	3°29'4	4'5	3°28'2	4'5	3°27'1	4'4
470	3°43'2	4'6	3°42'0	4'7	3°40'8	4'7	3°39'7	4'6	3°38'5	4'6	3°37'3	4'6	3°36'2	4'5	3°35'0	4'5	3°33'9	4'5	3°32'7	4'5	3°31'5	4'5
480	3°47'8	4'7	3°46'7	4'6	3°45'5	4'6	3°44'3	4'6	3°43'1	4'6	3°41'9	4'6	3°40'7	4'6	3°39'5	4'6	3°38'4	4'5	3°37'2	4'4	3°36'0	4'4
490	3°52'5	4'7	3°51'3	4'7	3°50'1	4'6	3°48'9	4'6	3°47'7	4'6	3°46'5	4'6	3°45'3	4'5	3°44'1	4'5	3°42'9	4'5	3°41'6	4'5	3°40'4	4'5
500	3°57'2		3°56'0		3°54'7		3°53'5		3°52'3		3°51'1		3°49'8		3°48'6		3°47'4		3°46'1		3°44'9	

The angle φ in degrees. **Winkel φ in Graden.** *L'angle φ en degrés.*

Dist. 3800—4000.

	3800	Diff.	3820	Diff.	3840	Diff.	3860	Diff.	3880	Diff.	3900	Diff.	3920	Diff.	3940	Diff.	3960	Diff.	3980	Diff.	4000	Diff.
0	0° 0'0	4'5	0° 0'0	4'5	0° 0'0	4'5	0° 0'0	4'5	0° 0'0	4'4	0° 0'0	4'4	0° 0'0	4'4	0° 0'0	4'4	0° 0'0	4'3	0° 0'0	4'3	0° 0'0	4'3
10	0° 4'5	4'6	0° 4'5	4'5	0° 4'5	4'5	0° 4'5	4'4	0° 4'4	4'5	0° 4'4	4'4	0° 4'4	4'4	0° 4'4	4'3	0° 4'3	4'4	0° 4'3	4'3	0° 4'3	4'3
20	0° 9'1	4'5	0° 9'0	4'5	0° 9'0	4'4	0° 8'9	4'5	0° 8'9	4'4	0° 8'8	4'4	0° 8'8	4'4	0° 8'7	4'4	0° 8'7	4'3	0° 8'6	4'4	0° 8'6	4'3
30	0°13'6	4'5	0°13'5	4'5	0°13'4	4'5	0°13'4	4'4	0°13'3	4'4	0°13'2	4'4	0°13'2	4'4	0°13'1	4'4	0°13'0	4'4	0°13'0	4'3	0°12'9	4'3
40	0°18'1	4'5	0°18'0	4'5	0°17'9	4'5	0°17'8	4'5	0°17'7	4'5	0°17'6	4'5	0°17'6	4'3	0°17'5	4'3	0°17'4	4'3	0°17'3	4'3	0°17'2	4'3
50	0°22'6	4'5	0°22'5	4'5	0°22'4	4'5	0°22'3	4'4	0°22'2	4'4	0°22'1	4'4	0°21'9	4'4	0°21'8	4'4	0°21'7	4'4	0°21'6	4'3	0°21'5	4'3
60	0°27'1	4'6	0°27'0	4'5	0°26'9	4'4	0°26'7	4'5	0°26'6	4'4	0°26'5	4'4	0°26'3	4'4	0°26'2	4'4	0°26'1	4'3	0°25'9	4'3	0°25'8	4'3
70	0°31'7	4'5	0°31'5	4'5	0°31'3	4'5	0°31'2	4'4	0°31'0	4'5	0°30'9	4'4	0°30'7	4'4	0°30'6	4'3	0°30'4	4'3	0°30'2	4'4	0°30'1	4'3
80	0°36'2	4'5	0°36'0	4'5	0°35'8	4'5	0°35'6	4'5	0°35'5	4'4	0°35'3	4'4	0°35'1	4'4	0°34'9	4'4	0°34'7	4'4	0°34'6	4'3	0°34'4	4'3
90	0°40'7	4'5	0°40'5	4'5	0°40'3	4'5	0°40'1	4'4	0°39'9	4'4	0°39'7	4'4	0°39'5	4'4	0°39'3	4'3	0°39'1	4'3	0°38'9	4'3	0°38'7	4'3
100	0°45'2	4'5	0°45'0	4'5	0°44'8	4'4	0°44'5	4'5	0°44'3	4'5	0°44'1	4'4	0°43'9	4'4	0°43'6	4'4	0°43'4	4'4	0°43'2	4'3	0°43'0	4'3
110	0°49'7	4'6	0°49'5	4'5	0°49'2	4'5	0°49'0	4'5	0°48'8	4'4	0°48'5	4'4	0°48'3	4'3	0°48'0	4'4	0°47'8	4'3	0°47'5	4'3	0°47'3	4'3
120	0°54'3	4'5	0°54'0	4'5	0°53'7	4'5	0°53'5	4'4	0°53'2	4'4	0°52'9	4'4	0°52'6	4'4	0°52'4	4'3	0°52'1	4'3	0°51'8	4'3	0°51'6	4'2
130	0°58'8	4'5	0°58'5	4'5	0°58'2	4'5	0°57'9	4'5	0°57'6	4'4	0°57'3	4'4	0°57'0	4'4	0°56'7	4'4	0°56'4	4'4	0°56'1	4'4	0°55'8	4'3
140	1° 3'3	4'5	1° 3'0	4'5	1° 2'7	4'4	1° 2'4	4'4	1° 2'0	4'5	1° 1'7	4'4	1° 1'4	4'4	1° 1'1	4'4	1° 0'8	4'3	1° 0'5	4'3	1° 0'1	4'3
150	1° 7'8	4'5	1° 7'5	4'5	1° 7'1	4'5	1° 6'8	4'5	1° 6'5	4'4	1° 6'1	4'4	1° 5'8	4'4	1° 5'5	4'3	1° 5'1	4'3	1° 4'8	4'3	1° 4'4	4'3
160	1°12'3	4'6	1°12'0	4'5	1°11'6	4'5	1°11'3	4'4	1°10'9	4'4	1°10'5	4'4	1°10'2	4'3	1° 9'8	4'4	1° 9'4	4'4	1° 9'1	4'3	1° 8'7	4'3
170	1°16'9	4'5	1°16'5	4'5	1°16'1	4'5	1°15'7	4'4	1°15'3	4'4	1°14'9	4'4	1°14'5	4'4	1°14'2	4'3	1°13'8	4'3	1°13'4	4'3	1°13'0	4'3
180	1°21'4	4'5	1°21'0	4'4	1°20'6	4'4	1°20'1	4'5	1°19'7	4'5	1°19'3	4'4	1°18'9	4'4	1°18'5	4'4	1°18'1	4'3	1°17'7	4'3	1°17'3	4'3
190	1°25'9	4'5	1°25'4	4'5	1°25'0	4'5	1°24'6	4'4	1°24'2	4'4	1°23'7	4'4	1°23'3	4'4	1°22'9	4'3	1°22'4	4'4	1°22'0	4'3	1°21'6	4'3
200	1°30'4	4'5	1°29'9	4'5	1°29'5	4'4	1°29'0	4'5	1°28'6	4'4	1°28'1	4'4	1°27'7	4'4	1°27'2	4'4	1°26'8	4'3	1°26'3	4'3	1°25'9	4'3
210	1°34'9	4'5	1°34'4	4'5	1°33'9	4'5	1°33'5	4'4	1°33'0	4'4	1°32'5	4'4	1°32'1	4'3	1°31'6	4'3	1°31'1	4'3	1°30'6	4'3	1°30'2	4'2
220	1°39'4	4'5	1°38'9	4'5	1°38'4	4'5	1°37'9	4'5	1°37'4	4'4	1°36'9	4'4	1°36'4	4'4	1°35'9	4'4	1°35'4	4'4	1°34'9	4'4	1°34'4	4'3
230	1°43'9	4'5	1°43'4	4'5	1°42'9	4'4	1°42'4	4'4	1°41'8	4'5	1°41'3	4'4	1°40'8	4'4	1°40'3	4'3	1°39'8	4'3	1°39'3	4'3	1°38'7	4'3
240	1°48'4	4'5	1°47'9	4'5	1°47'3	4'5	1°46'8	4'4	1°46'3	4'4	1°45'7	4'4	1°45'2	4'3	1°44'6	4'4	1°44'1	4'3	1°43'6	4'3	1°43'0	4'3
250	1°52'9	4'5	1°52'4	4'4	1°51'8	4'5	1°51'2	4'5	1°50'7	4'4	1°50'1	4'4	1°49'5	4'4	1°49'0	4'3	1°48'4	4'3	1°47'9	4'3	1°47'3	4'3
260	1°57'4	4'5	1°56'8	4'5	1°56'3	4'4	1°55'7	4'4	1°55'1	4'4	1°54'5	4'4	1°53'9	4'4	1°53'3	4'4	1°52'7	4'4	1°52'2	4'3	1°51'6	4'3
270	2° 1'9	4'5	2° 1'3	4'5	2° 0'7	4'5	2° 0'1	4'4	1°59'5	4'4	1°58'9	4'4	1°58'3	4'4	1°57'7	4'3	1°57'1	4'3	1°56'5	4'3	1°55'9	4'2
280	2° 6'4	4'5	2° 5'8	4'5	2° 5'2	4'4	2° 4'5	4'5	2° 3'9	4'4	2° 3'3	4'4	2° 2'7	4'3	2° 2'0	4'4	2° 1'4	4'3	2° 0'8	4'3	2° 0'1	4'3
290	2°10'9	4'5	2°10'3	4'5	2° 9'6	4'5	2° 9'0	4'4	2° 8'3	4'4	2° 7'7	4'4	2° 7'0	4'4	2° 6'4	4'3	2° 5'7	4'3	2° 5'1	4'3	2° 4'4	4'3
300	2°15'4	4'5	2°14'8	4'4	2°14'1	4'4	2°13'4	4'4	2°12'7	4'4	2°12'1	4'3	2°11'4	4'3	2°10'7	4'3	2°10'0	4'3	2° 9'4	4'3	2° 8'7	4'3
310	2°19'9	4'5	2°19'2	4'5	2°18'5	4'5	2°17'8	4'5	2°17'1	4'4	2°16'4	4'4	2°15'7	4'4	2°15'0	4'4	2°14'3	4'4	2°13'7	4'2	2°13'0	4'2
320	2°24'4	4'5	2°23'7	4'5	2°23'0	4'4	2°22'3	4'4	2°21'5	4'4	2°20'8	4'4	2°20'1	4'4	2°19'4	4'3	2°18'7	4'3	2°17'9	4'3	2°17'2	4'3
330	2°28'9	4'5	2°28'2	4'4	2°27'4	4'5	2°26'7	4'4	2°25'9	4'4	2°25'2	4'4	2°24'5	4'3	2°23'7	4'3	2°23'0	4'3	2°22'2	4'3	2°21'5	4'3
340	2°33'4	4'5	2°32'6	4'5	2°31'9	4'4	2°31'1	4'4	2°30'3	4'4	2°29'6	4'4	2°28'8	4'4	2°28'0	4'4	2°27'3	4'3	2°26'5	4'3	2°25'8	4'2
350	2°37'9	4'5	2°37'1	4'5	2°36'3	4'4	2°35'5	4'4	2°34'7	4'4	2°34'0	4'3	2°33'2	4'3	2°32'4	4'3	2°31'6	4'3	2°30'8	4'3	2°30'0	4'3
360	2°42'4	4'4	2°41'6	4'4	2°40'7	4'5	2°39'9	4'5	2°39'1	4'4	2°38'3	4'4	2°37'5	4'4	2°36'7	4'3	2°35'9	4'3	2°35'1	4'3	2°34'3	4'3
370	2°46'8	4'5	2°46'0	4'5	2°45'2	4'4	2°44'4	4'4	2°43'5	4'4	2°42'7	4'4	2°41'9	4'3	2°41'0	4'4	2°40'2	4'3	2°39'4	4'3	2°38'6	4'2
380	2°51'3	4'5	2°50'5	4'4	2°49'6	4'5	2°48'8	4'4	2°47'9	4'4	2°47'1	4'3	2°46'2	4'4	2°45'4	4'3	2°44'5	4'3	2°43'7	4'3	2°42'8	4'3
390	2°55'8	4'5	2°54'9	4'5	2°54'1	4'4	2°53'2	4'4	2°52'3	4'4	2°51'4	4'4	2°50'6	4'3	2°49'7	4'3	2°48'8	4'3	2°48'0	4'3	2°47'1	4'2
400	3° 0'3	4'4	2°59'4	4'4	2°58'5	4'4	2°57'6	4'4	2°56'7	4'4	2°55'8	4'3	2°54'9	4'4	2°54'0	4'3	2°53'1	4'3	2°52'3	4'2	2°51'3	4'3
410	3° 4'7	4'5	3° 3'8	4'5	3° 2'9	4'4	3° 2'0	4'4	3° 1'1	4'4	3° 0'1	4'4	2°59'3	4'3	2°58'3	4'3	2°57'4	4'3	2°56'5	4'3	2°55'6	4'2
420	3° 9'2	4'5	3° 8'3	4'4	3° 7'3	4'5	3° 6'4	4'4	3° 5'5	4'3	3° 4'5	4'4	3° 3'6	4'3	3° 2'6	4'4	3° 1'7	4'3	3° 0'8	4'2	2°59'8	4'3
430	3°13'7	4'5	3°12'7	4'5	3°11'8	4'4	3°10'8	4'4	3° 9'8	4'4	3° 8'9	4'3	3° 7'9	4'4	3° 7'0	4'3	3° 6'0	4'3	3° 5'0	4'3	3° 4'1	4'2
440	3°18'2	4'4	3°17'2	4'4	3°16'2	4'4	3°15'2	4'4	3°14'2	4'4	3°13'2	4'4	3°12'3	4'3	3°11'3	4'3	3°10'3	4'3	3° 9'3	4'3	3° 8'3	4'3
450	3°22'6	4'5	3°21'6	4'4	3°20'6	4'4	3°19'6	4'4	3°18'6	4'4	3°17'6	4'3	3°16'6	4'3	3°15'6	4'3	3°14'6	4'3	3°13'6	4'2	3°12'6	4'2
460	3°27'1	4'4	3°26'0	4'5	3°25'0	4'4	3°24'0	4'4	3°23'0	4'3	3°21'9	4'4	3°20'9	4'3	3°19'9	4'3	3°18'9	4'2	3°17'8	4'3	3°16'8	4'3
470	3°31'5	4'5	3°30'5	4'4	3°29'4	4'4	3°28'4	4'4	3°27'3	4'4	3°26'3	4'3	3°25'2	4'4	3°24'2	4'3	3°23'1	4'3	3°22'1	4'3	3°21'1	4'2
480	3°36'0	4'4	3°34'9	4'4	3°33'8	4'5	3°32'8	4'4	3°31'7	4'4	3°30'6	4'4	3°29'6	4'3	3°28'5	4'3	3°27'4	4'3	3°26'4	4'2	3°25'3	4'2
490	3°40'4	4'5	3°39'3	4'5	3°38'3	4'4	3°37'2	4'3	3°36'1	4'3	3°35'0	4'3	3°33'9	4'3	3°32'8	4'3	3°31'7	4'3	3°30'6	4'3	3°29'5	4'3
500	3°44'9		3°43'8		3°42'7		3°41'5		3°40'4		3°39'3		3°38'2		3°37'1		3°36'0		3°34'9		3°33'8	



